All dollar amounts in thousands

Activity/Subactivity Summary

Activity: Park Management
Subactivity: Resource Stewardship
FY 2002 Enacted: $318.312 million

Program Components	2002 Enacted	FY 2003 Uncontr/ Related Changes	FY 2003 Program Changes (+/-)	FY 2003 Budget Request	Change From 2002 (+/-)
Natural Resources Research Support	9,315	+31	-13	9,333	+18
Natural Resources Management	152,741	+1,058	+18,035	171,834	+19,093
Everglades Restoration and Research	10,869	+16	-4,007	6,878	-3,991
Cultural Resources Applied Research	17,960	+128	-4	18,084	+124
Cultural Resources Management	82,169	+773	+37	82,979	+810
Resources Protection	45,258	+351	+206	45,815	+557
Total Requirements	318,312	+2,357	+14,254	334,923	+16,611

Authorization

16 USC 1 and 2 to 4	National Park Service Organic Act
16 USC 1a-1 to 1a-7	National Park System General Authorities Act
16 USC 18f	"Management of Museum Properties"
16 USC 410r-5 to r-8	Everglades National Park Protection and Expansion Act of 1989
16 USC 461 to 467	Historic Sites Act
16 USC 470	National Historic Preservation Act
16 USC 594	Chapter 4 "Protection of Timbers, and Depredations"
16 USC 1131 to 1136	Wilderness Act
16 USC 1221 to 1226	Chapter 26, "Estuarine Areas"
16 USC 1334 to 1340	Wild Free-Roaming Horses and Burros Act, as amended.
Public Law 105-391	The National Parks Omnibus Management Act of 1998
Public Law 105-203	The National Underground Railroad Network to Freedom Act of 1998

Overview

As steward of the Nation's natural and cultural heritage, the primary responsibility of the National Park Service is to preserve and protect irreplaceable park resources. To carry out this stewardship responsibility, the Service implements programs that encompass a broad range of research, operational, and educational activities. NPS inventories, evaluates, documents, preserves, protects, monitors, maintains, and interprets the natural and cultural resources at 385 park units and many affiliated areas. Park Service stewardship helps to perpetuate resources and allows for their continued appreciation, understanding and enjoyment. Resource stewardship subactivities consists of the following areas of responsibility:

Natural Resources Stewardship

- Includes natural resources research support and natural resources management
- Covers natural scenery, wildlife, vegetation, air, water, geologic resources, soundscape conditions, and ecosystems

Everglades Restoration and Research

- Encompasses activities related to the recovery and restoration of the Everglades watershed

Cultural Resources Stewardship

- Includes cultural resources applied research and cultural resources management
- Covers prehistoric and historic archeological sites and structures, ethnographic resources, cultural landscapes, and museum collections

Resources Protection
- Includes patrols and law enforcement activities to prevent intentional or unintended damage to resources.

Mission Goals Applicable to this Subactivity

Ia Natural and cultural resources and associated values are protected, restored and maintained in good condition and managed within their broader ecosystem and cultural context.

Ib The National Park Service contributes to knowledge about natural and cultural resources and associated values; management decisions about resources and visitors are based on adequate scholarly and scientific information.

IIa Visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of park facilities, services, and appropriate recreational opportunities.

IIb Park visitors and the general public understand and appreciate the preservation of parks and their resources for this and future generations.

IIIa Natural and cultural resources are conserved through formal partnership programs.

IIIb Through partnerships with State and local agencies and nonprofit organizations, a nationwide system of parks, open space, rivers, and trails provides educational, recreational, and conservation benefits for the American people.

IIIc Assisted through Federal funds and programs, the protection of recreational opportunities is achieved through formal mechanisms to ensure continued access for public recreation use.

IVa The National Park Service uses current management practices, systems, and technologies to accomplish its mission.

Subactivity: Resources Stewardship
Program Component: Natural Resource Research Support
FY 2002 Enacted: $9.315 million

FY 2002 Estimated Program and Anticipated Accomplishments

The National Park Service has a limited Natural Resources Research Support program. Typically, parks do not have specific funds allocated for research, but may choose to fund individual projects in any given year. Research needs, objectives, and priorities are included in the Resource Management Plans developed for each park. A small number of Servicewide programs have research components and, through the Natural Resource Challenge, the NPS has established innovative programs involving Cooperative Ecosystem Study Units and Learning Centers to support research efforts.

At A Glance…

Natural Resource Research
- Addresses specific questions with immediate applications within the National Park System.
- Longer-term research enhances overall understanding of specific park resources.
- NPS coordinates with the Biological Resources Division of the U.S. Geological Survey to obtain research needed by the NPS.
- FY 2002 efforts primarily relate to physical science investigations.

Air Quality Programs. A significant focus of the Servicewide natural resources research support program in FY 2002 relates to air quality research. Its primary emphasis is on visibility, a discipline not covered by the USGS/Biological Resources Division or sufficiently by other Federal agencies. This research responds to statutory mandates to protect important scenic resources and other air quality related values in parks from being impaired by air pollution, and assists in meeting NPS responsibilities under the Clean Air Act. A significant portion of this research effort is the acquisition of long-term monitoring data on visibility conditions in national parks, especially Class I parks and on the composition of particles in the air that cause visibility impairment.

Combined with research on the transport and transformation of air pollutants, these data help identify the regions and sources of the pollutants that cause visibility impairment in parks. Environmental Protection Agency (EPA) regional haze regulations require States to make reasonable progress toward restoration of Class I

All dollar amounts in thousands

area visibility to natural conditions over a sixty-year time frame. This information assists the states in complying with these regulations. A total of $2.15 million in FY 2002 funding supports continuing NPS research on the effects of particulate matter on visibility in national parks.

Clean Air Act

Class I Parks Criteria

- National Parks over 6,000 acres
- Wilderness Areas over 5,000 acres
- National Memorial Parks and International Parks existing on August 7, 1977

The NPS maintains a 49-station network of fine particle samplers in partnership with EPA and States, an 18-station network of optical monitors, and a 14-station network of ultraviolet-B monitors also in partnership with the EPA. The NPS will also coordinate completion of EPA-funded air quality related ecological effects research and monitoring of various airborne environmental stressors at selected PRIMENet parks. Visibility in parks is one of three key performance indicators the NPS uses to assess accomplishments towards one of its long-term strategic goals.

Natural Resources Research Support Workload Factors

Workload Factor	Resources Monitored	Parks in 2002
Air Quality Program, funded by Environmental Protection Agency as part of the Park Research and Intensive Monitoring of Ecosystems Network (PRIMENet).	Ultraviolet-B Radiation	14 parks
Air Quality Program, as part of the multi-agency Interagency Monitoring of Protected Visual Environments (IMPROVE) Program.	Visibility*	49 parks

* Particulate matter and atmospheric optical variables

In FY 2002, the NPS will continue most of its FY 2001 activities and will initiate new visibility research in appropriate areas to continue meeting NPS responsibilities under the Clean Air Act.

Projects funded in FY 2002 include:

- continued research and development of reliable methods for measuring fine particle absorption
- a key component to visibility impairment in many parks
- completion of the Big Bend Regional Aerosol and Visibility Observational Study that focuses on apportioning visibility impairment at Big Bend National Park to United States and Mexican sources of air pollution
- continuation of research efforts to apportion and differentiate the contribution of emissions from wildland fires from emissions from industrial sources to fine particle and visibility impacts in NPS Class I areas.

Cooperative Ecosystem Studies Units (CESUs): A network of Cooperative Ecosystem Studies Units (CESUs) has been established with leadership from the National Park Service, the U.S. Geological Survey, and other Federal agencies. These units are interdisciplinary, multi-agency partnerships, organized into broad bio-geographic areas. Each unit includes a host university, additional university and other partners, and Federal agencies. Individual CESUs are part of a national network, operating under a memorandum of understanding among ten partner Federal agencies.

At A Glance…

Cooperative Ecosystem Studies Units (CESU)

An NPS coordinator – a "science broker" – is duty stationed at each current CESU host university

- Works with multiple parks and programs
- Identifies park research, technical assistance, and education needs
- Assists in finding project funding
- Locates specialized expertise available from over 75 host and affiliated universities

Benefits to the NPS include:

- A broadened scope of scientific services for park managers (e.g., research and resource management are better integrated to solve interdisciplinary management problems).
- Enhanced collaboration and coordination between the NPS, other Federal agencies, and universities to address complex landscape-level management issues.
- Enhanced technical assistance, education, training, and planning support to NPS managers.

- Increased workforce diversity in NPS resource management (e.g., by including Historically Black Colleges and Universities, Predominantly Hispanic Serving Institutions, and Native American Tribal Colleges).

This national network enables the NPS to partner with other Federal agencies and the Nation's universities to obtain high-quality science, usable knowledge for resource managers, responsive technical assistance, continuing education, and cost-effective research programs.

FY 2002 Activities include:

- Mammal surveys at three parks
- Environmental contaminants baseline inventory and monitoring at eight parks
- Alternative transportation feasibility study at Kenai Fjords NP
- Research on properties associated with desegregation and civil rights across the nation
- Mapping and characterization of aquatic refugia at Everglades NP

Learning Centers: Learning Centers serve as focal points for research, information exchange, and education for their park networks on topics ranging from coastal ecosystems, environmental history, cultural landscapes, fire ecology and prescribed fire. In FY 2002, through funding received in conjunction with the Natural Resource Challenge, five Learning Centers have been established by the NPS to host researchers in the parks and extend the knowledge gained by the public at large. All centers leverage Federal funds with partnership sources. A research/center coordinator and education specialist are located at each center. Eight more centers will be in established in FY 2002. Ultimately, with private assistance, a total of 32 centers are planned and will each host up to 30 researchers.

At A Glance…

Cooperative Ecosystem Studies Units (CESU)

To date, ten have been established:

- Southern Appalachian Mountains
- Colorado Plateau
- North Atlantic Coast
- Rocky Mountains
- Desert Southwest
- Great Plains
- Pacific Northwest (incl. Alaska)
- South Florida/Caribbean
- Chesapeake Watershed
- Great Basin

Two are planned for FY 2002:

- Great Lakes-Northern Forest
- Gulf Coast

At A Glance...

Learning Centers

With host researchers:

- Cape Cod NS
- Great Smoky Mountains NP
- Kenai Fjords NP
- Point Reyes NS
- Rocky Mountain NP

At A Glance...

Learning Centers

Eight new in 2002:

- Acadia NP
- Congaree Swamp NM
- Gateway NRA
- Glacier National Park
- Indiana Dunes NL with Sleeping Bear Dunes NL
- National Capital Parks
- North Cascades NP with Mount Rainier NP and Olympic NP
- Santa Monica Mountains NRA

All dollar amounts in thousands

Performance Goals

Goal Ia1. Restore parklands impacted by former uses and that contain invasive plants

			Goals			
			Annual FY 2003		Long-term FY 2005	
Target	Measure	FY 1999 Base: Targeted Acres	Number	% of Base	Number	% of Base
Disturbed parklands	Acres restored	222,300	13,560	6.1%	22,452	10.1%
Exotic Vegetation	Acres contained	2,656,700	103,611	3.9%	167,372	6.3%

Goal Ia2. Protect Federally listed threatened and endangered (T&E) species on parklands

			Goals			
			Annual FY 2003		Long-term FY 2005	
Target	Measure	NPS T&E Species as of 1999	Number	% of Base	Number	% of Base
T&E Species on park-lands	Populations improved	442	55	12.4%	64	14.4%
	Populations stable	442	127	28.7%	127	28.7%

Goal Ia3. Protect park air quality

		Goals	
Target	Measure	Annual FY 2003	Long-term FY 2005
Air quality in parks	Reporting parks with improving or stable air quality	61%	70%

Goal Ia4. Water quality in park units remains unimpaired

			Goals			
			Annual FY 2003		Long-term FY 2005	
Target	Measure	FY 2000 Base	Number	% of Base	Number	% of Base
Parks with waterbodies	Parks with unimpaired water quality	288	187	65%	216	75%

FY 2003 Budget Request: Natural Resource Research Support

Request Component	Amount
FY 2002 Budget Request	9,315
Programmatic Changes	
• Travel Reduction	-13
TOTAL, Program Changes[1]	**-13**
Uncontrollable changes	+31
FY 2003 Budget Request	**9,333**
Net change	+18

[1]Justification for program changes can be found at the end of this subactivity's presentation.

Subactivity: Resource Stewardship
Program Component: Natural Resources Management
FY 2002 Enacted: $152.741 million

FY 2002 Estimated Program and Anticipated Accomplishments

At A Glance…

The Natural Resource Preservation Program (NRPP), with increased funding in FY 2002, will:

- Attend to more than 130 priority projects in over 70 parks
- Expansion of project funding for several special emphasis areas
- Support numerous diverse natural resource projects designed to preserve geologic, wildlife, fisheries, vegetation, environmental conditions, and other natural features in parks

Natural resource management within the National Park System is conducted largely at the park level, including planning for resource preservation programs and projects. This resource management is effectively park-based with the primary responsibility for natural resource preservation activities vested with the parks themselves. Centralized subject-matter specialists provide park managers with cost-effective scientific support and technical assistance on the range of air, water, geologic, and biologic park resource management needs, including science-based decision-making support and problem resolution. National Park Service subject-matter specialists provide the special expertise needed to assist parks in performing multi-park activities necessitating specialized skills or approaches (e.g., abiotic resource inventories, Exotic Plant Management Teams). Natural resource funding received by the NPS is allotted primarily to provide salary and support costs for personnel based in parks where only limited or non-recurring funds may be available to fund needed programs and projects.

The Natural Resource Preservation Program (NRPP) provides the only reliable and dedicated major source of funds for park natural resource management projects. This Servicewide program provides funding for park natural resource management related projects that are beyond the funding capabilities of the parks themselves and has come to be both relied on by and essential to most parks in order to fund their highest priority project needs. The Natural Resource Preservation Program is used not only to provide a source of funding for large natural resource management projects (costing more than $50,000), but a portion is used to fund projects in smaller parks.

Projects initiated in FY 2002 include:

- Protect Yellowstone cutthroat trout in Yellowstone NP
- Gather baseline data on golden eagle populations in Grand Canyon NP
- Develop an Integrated Pest Management Plan for Fort Laramie NHS
- Control invasive, exotic purple loosestrife in wetlands at Cape Cod NS
- Re-establishment of California condors at Pinnacles NM
- Exclusion of ungulates from intact ecosystem on the Pu'u Ali'I Plateau at Kalaupapa NHP
- Restore impacted wetlands at Glacier Creek in Rocky Mountain NP
- Restore wilderness conditions to Boulder Hot Springs at Olympic NP
- Control feral pigs damaging backcountry water sources and wildlife habitat in Big Bend NP
- Protect native species from invasive exotic iceplant at Point Reyes NS
- Emergency removal and conservation of a paleontological resource subject to recurring theft from public land at Badlands NP
- Establishment of a biocontrol program for the exotic Salvinia plant at Jean Lafitte NHP&Pres
- Document changes in reservoir management on mercury accumulation in fish and other aquatic ecosystem components at Voyageurs NP
- Verification of a predictive contaminate deposition map at Acadia NP
- Complete cave restoration at Oregon Caves NM
- Reintroduction of black bear at Big South Fork NR&RA
- Restoration of mission blue butterfly habitat at Fort Baker, Golden Gate NRA.

Natural Resource Planning. Resource Management Plans (RMP) define the park's natural and cultural resource management programs and serve as a blueprint for the comprehensive management of resources necessary to meet the Park Service's statutory obligations under the 1916 Organic Act. Servicewide in FY 1999 (the last year the legacy RMP database was complete) park resource management plans identified at least 19,000 natural resource management program and project needs. These planning activities include public involvement and support the preparation of park-specific strategies and projects necessary to achieve many of the Service's performance goals.

In FY 2002, the NPS is developing new policy concerning natural resource management plans to improve their integration with park general management plans, long-term strategic planning, and performance-linked park strategic plans. The NPS is also developing a new information system to serve as a primary program planning tool for parks to organize park resource management needs and integrate these needs with other NPS information systems, initially including budget formulation and performance reporting systems. This system will improve project design, execution, expenditure tracking and accomplishment reporting.

Natural Resources Inventory and Monitoring Activities. Park managers require scientifically sound, comprehensive information on the natural resources occurring within parks and the processes necessary to maintain them in order to meet the bureau's statutory obligations. The NPS administers a Servicewide Inventory and Monitoring (I&M) Program and also has inventory and monitoring components as part of other programs such as the air quality and water resources programs.

At A Glance…

- The Servicewide inventory and monitoring program funds a systematic effort to meet specific natural resource inventory needs at 260 parks.
- The NPS is seeking to acquire 12 basic data sets for each of the parks included in the inventory and monitoring program.
- Collectively, these data sets represent the minimum scientific information needed to manage park natural resources.
- Data sets include:
  - Blibiographies
  - Species Lists
  - Biological Inventories
  - Base Cartography Data
  - Vegetation and Landcover Maps
  - Soils Maps
  - Geology Maps
  - Water Quality Data
  - Water Resources Location
  - Air Quality Stations
  - Air Quality Data
  - Meteorological Data

Inventory Programs. Inventory information is an essential component to understanding species diversity, abundance, and distribution in order to provide effective resource stewardship. Acquisition of information for twelve basic data sets continues, as described below:

- Bibliographies. Critical to informed natural resource management decisions is access to historical scientific and pertinent anecdotal information for decision-makers. In FY 2002, the NPS will complete cataloguing this information from park holdings (publications, reports, maps, etc.) contained in a wide range of repositories within parks and other locations, and incorporate the information into a comprehensive, centralized database which can be readily accessed by NPS managers.

- Species Lists. Park management must be based on a thorough understanding of the species occurring within each park in order to meet the bureau's statutory responsibilities. In FY 2002, ongoing vertebrate wildlife and vascular plant species lists developed through previous surveys and park inventory and monitoring projects are providing crucial information concerning both native species and nonnative species. Information on invasive nonnative species substantially assists the bureau in addressing this major and very widespread threat to the preservation and restoration of natural habitats in the parks. Vegetation information is vital for effective planning of new field investigations and research in the parks. Similar to the bibliography projects described above, this aspect of the inventory and monitoring program consolidates all existing species lists, wildlife observation cards and similar information available in the park, as well as species information from other Federal and/or State resource management agencies, and The Nature Conservancy into comprehensive park species databases which are readily accessible to park managers.

- Biological Inventories. A survey of 252 natural resource parks in 1993 revealed that more than 80 percent of those parks lacked reliable information about which species were present, their geographic and ecological distribution, and relative abundance in the park. This component of the inventory and monitoring program provides for new field inventories with the goal of documenting the occurrence and relative abundance of at

least 90 percent of the vertebrate wildlife and vascular plants found in parks, giving special attention to species occurring on Federal and/or State threatened and endangered listings. These inventories also provide park managers with baseline information needed to monitor these resources in the future to detect change. In FY 2002, the Service will continue with the acquisition of biological inventory information in all 256 natural resource parks.

- Base Cartography Data. By far, the most efficient and cost-effective way for park managers to utilize complex natural resource information is through spatial display and analysis. For example, by incorporating relatively basic information about vegetation communities and topography into a spatial analysis, managers can locate potential habitats for endangered plant species or predict conditions likely to influence a wildland fire. Consequently, all parks urgently need the assembly of basic spatial information access and support from geographic information systems (GIS) to support decision-making and resource protection activities. To help accomplish that goal, this inventory effort will continue to obtain four basic cartographic products needed to construct and update park geographic information system capabilities through a 50:50 cost-share arrangement with the U.S. Geological Survey.

- Vegetation and Landcover Maps. Vegetation information is arguably the most critical piece of information needed for park resource management and protection. Vegetation assemblages integrate diverse information on air quality, soils, topography, hydrology, meteorological conditions, and animal interactions that provide park managers with a key measure on the status of the natural systems they are managing. Spatial vegetation data for parks in Alaska continues to be developed to assist NPS managers in monitoring, detecting, and quantifying changes in park plant species distribution and condition, and to aid in determining if such changes are natural or man-caused. The NPS and USGS/Biological Resources Division are also currently cooperating to collect similar data for all natural resources in parks within the Servicewide natural resource inventory and monitoring program outside of Alaska. Only ten percent of 240 parks needing comprehensive vegetation inventory and corresponding spatial information possessed this information. Aerial photography is being used as the basis for this mapping in parks outside of Alaska. In Alaskan parks, vegetation and associated landcover features are being mapped from satellite imagery because of their large size.

At A Glance…

Vegetation maps are vital for:
- Management and protection of wildlife habitat
- Modeling vegetation flammability and fuel loading implications for fire management.
- Analyses for site development suitability.
- Evaluation of resources at risk.

- Soils Maps. Soil surveys provide basic information needed to manage soil sustainability and to protect water quality, wetlands, vegetation communities, and wildlife habitats. Soil surveys also provide managers with the ability to predict the behavior of a soil under alternative uses, its potential erosion hazard, its potential for ground water contamination, its suitability for control of exotic plant species and establishment of native communities, and its potential for preservation of cultural sites and landscapes. The NPS works cooperatively with the U.S. Department of Agriculture's Natural Resources Conservation Service to provide park managers with basic information about soils throughout the parks as well as more detailed information for potentially high-use or developed areas in the park (e.g., visitor centers, campgrounds, access roads, etc.).

- Geology Maps. Geologic maps are critical for documenting the nature and location of unique geologic features described in park enabling legislation, including ground water supplies, paleontological resources, caves and other karst resources, and abandoned mine lands requiring restoration. These maps also serve as predictive tools in locating populations of plant and wildlife species dependent on unique chemical environments. Furthermore, the predictive capabilities of geologic maps can help park managers better protect visitor safety by identifying the location of potential geologic hazards. Each park is being provided with a report containing a detailed listing and evaluation of geologic information currently available for the park plus a copy of any existing geologic maps in digital format. Park-specific needs for additional geologic mapping are identified by the NPS through this process and cooperative mapping efforts pursued with academic institutions, USGS, or State agencies.

- Water Resource Location. The focus will be on locating and classifying important water bodies in parks. The protection of park waters, watersheds, and aquatic life is fundamental to the Service's ability to meet its

statutory responsibility to preserve park resources and to ensure the quality of the visitor experience. Data collection will include the location and size of streams, lakes, and springs. State water body classifications under the Clean Water Act will be attributed, as will information on the attainment or non-attainment of State water quality standards. Information of this nature is needed to determine watershed boundaries and how land management practices within that watershed might eventually impact park resources. The foundation of this component of the inventory program is acquisition of appropriate scale National Hydrography Datasets, including small scale data for parks as part of the water quality data inventory project.

- Water Quality. Park managers urgently need information about the current status of water quality in the parks as well as a baseline against which they can evaluate progress towards meeting park and Servicewide water quality performance goals. The Servicewide water quality database is being constructed within the EPA STORET national water quality database. Presently over 2.5 million park water quality observations have been entered into the NPS Servicewide water quality database. For 276 parks with water resources, a Baseline Water Quality Data Inventory and Analysis Report is being prepared which provides a wide variety of water quality status and trend information, and supports comparisons of park water quality against EPA recommended criteria. Additional water quality inventories are also being conducted where park coverage is incomplete and gaps need to be filled. In addition to benefiting parks, the information is used to support activities under the Clean Water Act and other national programs.

At A Glance…

Goals the of water quality program

- Create a park-based Servicewide water quality database using available historic water quality data.
- Provide descriptive water quality information in a format useful to park managers.
- Conduct baseline inventory studies in parks that have little or no information on water quality.

- Air Quality Stations. A large number of parks do not currently have permanent air quality monitoring stations located within their boundaries. Therefore, these parks have to rely upon air quality information obtained from stations located nearby. In FY 2002, the NPS will continue to identify available sources of air quality information closest to the park boundary for the 269 parks within the Servicewide inventory and monitoring program and evaluate its usefulness for park management and resource protection. The inventory will also focus on providing information on location of sources and changes in air pollutants that parks should be concerned about. This inventory activity will be conducted simultaneously with air quality inventories.

- Air Quality Data. The Clean Air Act amendments require that Federal land managers protect air quality related values (AQRVs) for public lands from the adverse effects of air pollution, including emissions from new point sources of air pollution. These AQRVs usually include sensitive plant and animal species, sensitive lakes and soils, and levels of visibility. This information is needed by States and air quality permit applicants to expedite the permitting process. Applicants are required to demonstrate that their additional emissions would not have an "adverse effect" on air quality related values in Class I areas. The NPS has 48 Class I areas that require this level of protection while all other NPS units are considered to be Class II areas.

- Meteorological Data. Basic data to be compiled for parks include annual precipitation, relative humidity, prevailing wind speed and direction, and temperature variability. For example, several of the parameters are needed to predict fire behavior patterns and therefore improve the park's ability to plan and safely manage both hazard reduction and resource objective prescribed burns, and wildfires. This information is also essential for park managers to assess cyclical and other episodic forest insect and disease conditions commonly influenced by meteorological conditions. The data are also used in numerous vegetation monitoring studies and essential in gaining a better understanding of the current and potential distribution of native, threatened and endangered, and exotic plant species in the parks.

All dollar amounts in thousands

Natural Resources Inventory Workload Factors

Workload Factors	Funded/Completed As of FY 2002	Number of Applicable Parks
Automated Bibliographies	256	256
Base Cartographic Data	256	256
Vegetation (Non Alaska)	25	240
Alaska Landcover Mapping	3	16
Species Lists	256	256
Biological Inventories	0	256
Water Quality		
Databases Summarized	256	276
Field Surveys (Gaps)	50	65
Water Resource Locations	135	256
Soil Maps	57	256
Geology:		
Baseline Assessments	35	256
Digital Maps	48	256
Air Quality	269	269
Meteorology	135	256

The Servicewide I&M program continues to accelerate efforts to complete inventories for base cartography data, soils mapping, geologic resources, and water quality in FY 2002 developing 84 priority park resource inventories sought by park managers. In addition, the Service is also compiling and verifying existing species information for an additional 60 parks. In FY 2002, the NPS initiated basic meteorological inventories for 135 parks and continues field-level inventories for vascular plants and vertebrate species of special concern to park managers (e.g., distribution of critical habitat for the endangered piping plover at Cape Cod National Seashore) in 32 park networks involving nearly 256 parks.

Vital Signs Monitoring. The NPS has organized parks into 32 geographic networks within which parks cooperate to monitor the vital signs (measurable features of the environment identified for each unique network) that indicate the health of park ecosystems in a clear, straightforward manner. NPS vital signs monitoring will provide park managers with key information on the status and trends in park ecosystem health; define normal limits of variation in measurable features; early warning of situations that require management intervention; suggest remedial treatments and frame research hypotheses; and determine compliance with laws and regulations.

FY 2002 At A Glance…

Vital Signs Monitoring

- 12 geographic networks, up from the 5 networks monitored in 2001.
- Will address long-term vital signs monitoring needs of 101 parks
- New networks include:
  - Central Alaska (3 parks)
  - National Capital (11 parks)
  - Northern Colorado Plateau (16 parks)
  - San Francisco Bay (6 parks)
  - Greater Yellowstone (3 parks)
  - Appalachian Highlands (4 parks)
  - Mediterranean Coast (3 Parks)

During FY 2002, the twelve vital signs monitoring networks will fund network monitoring coordination and data management. Some networks will fund scoping workshops designed to refine specific park monitoring needs – including identifying additional research necessary to develop monitoring protocols – together with monitoring strategies and priorities. The seven networks funded through an increase associated with the Natural Resource challenge in FY 2002 are the newest additions and in different phases of design and implementation. The vital signs monitoring networks added in FY 2002 include:

Water Quality Monitoring. In FY 2002, water quality monitoring program funding associated with the Natural Resource Challenge will be allocated to twelve Park Vital Signs Networks. Water quality monitoring will be fully integrated as part of the park vital signs monitoring in these Networks. The NPS will complete program planning and design, and initiate field implementation of water quality monitoring in the Appalachian High-

All dollar amounts in thousands

lands, Central Alaska, Cumberland/Piedmont, Greater Yellowstone, Heartland, Mediterranean Coast, National Capital, North Coast and Cascades, Northeast Coastal and Barrier, Northern Colorado Plateau, San Francisco Bay, and Sonoran Desert Networks. Water quality monitoring will focus on documenting the preservation of pristine waters and the improvement in water quality in impaired park waters. In addition, FY 2002 water quality monitoring will support the development of an NPS Servicewide water quality data management program within the EPA's STORET national water quality database.

Air Quality Monitoring. Significant portions of the NPS FY 2002 air resource activities are dedicated to monitoring air quality in parks and the data is integral to measuring NPS performance achievements. This monitoring includes the measurement of ozone, other gaseous pollutants, meteorological conditions, and acidic deposition (acid rain) levels to supplement the visibility and fine particulate information being developed as part of the NPS applied research into air quality Ongoing air quality monitoring is important to the preservation of air resources in parks and is necessary to:

- Accurately assess conditions in the parks
- Detect any of several gaseous pollutants which have been shown to be particularly injurious to park vegetation
- Measure ozone levels in parks (e.g., Great Smoky Mountains National Park and Sequoia National Park) where concentrations exceed threshold levels and national ambient air quality standards
- Collect data on wet and dry atmospheric deposition of sulfur and nitrogen compounds on park ecosystems with significant adverse effects on lakes, streams, and soils.

At A Glance…

The NPS plans on expanding air quality monitoring activities by adding:

- Wet deposition monitoring (precipitation chemistry)
- Precipitation-mercury monitoring
- Particle monitoring
- Ozone sampling
- Dry deposition sampling
- Monitoring for toxins and persistent organic pollutants

Historically, neither the EPA nor the various States have monitored air pollution levels in rural areas, particularly in national parks. In FY 2002, the NPS is continuing to collect systematic data on sulfur dioxide, ozone, and meteorological parameters in 36 parks; wet deposition (acid precipitation) as part of the National Atmospheric Deposition Program/National Trends Network in 42 parks; and visibility (atmospheric extinction or scattering) in 18 parks.

In FY 2002, a budget increase associated with the NPS Natural Resource Challenge supported improvements to air resource monitoring and protection capabilities. These improvements include:

- Expanded air quality monitoring to ensure adequate representation of ecoregions, with emphasis on parks most threatened by air pollution or most vulnerable to degradation
- Enhanced professional expertise to support collaborative efforts with stakeholders, regional planning organizations and regulatory agencies.

Servicewide Natural Resource Program Monitoring Activities

Resources Monitored	Monitoring Activities	Number of Parks in 2002
Air Resources: Air Quality	Sulfur dioxide, ozone, and meteorological parameters	37 (9 Cooperator funded)
	Wet deposition [acid rain] as part of the National Atmospheric Deposition Program National Trends Network	46 (10 Cooperator funded)
	Visibility	18
	Dry deposition	27
	Mercury and toxic/persistent organic pollutants	11
Water Resources (through NPS Vital Signs Monitoring Network)	Pristine waters Impaired waters	Up to 101 parks in 12 networks

All dollar amounts in thousands

Performance Goals

Goal Ib1. Increase natural resource data for all parks

		Data Sets as of FY	Goals			
			Annual FY 2003		Long-term FY 2005	
Target	Measure	1999	Number	% of Base	Number	% of Base
Natural Resource Inventory	Acquire or develop outstanding data sets	2,527	1,498	59%	2,203	87%

Goal Ib3. Parks with significant natural resources have a clear and simple method to identify the health of their resources

			Goals			
			Annual FY 2003		Long-term FY 2005	
Target	Measure	FY 2001 Base	Number	% of Base	Number	% of Base
Parks with significant natural resources	Parks with identified vital signs for monitoring	270	108	40%	216	80%

Natural Resource Preservation Activities. In FY 2002, the National Park Service continues to actively manage natural resources in the National Park System to meet its statutory responsibility to preserve these resources unimpaired. Natural resource preservation activities are primarily funded and undertaken at the park level with additional funding and technical assistance support for actions beyond park capabilities provided to parks through regional or Servicewide programs. Park managers perform a range of management activities designed to preserve natural resources, including science-based restoration, rehabilitation, control and mitigation actions.

Park units contain many examples of areas disturbed by past human activity and adverse effects to park resources that require restoration such as:

- Abandoned roads
- Backcountry campsites and other discrete areas impacted by visitor and other uses
- Habitats such as prairies and wetlands altered by changes in water flow
- Areas invaded by exotic plant species
- Disruption of natural fire regimes with losses of fire-dependent vegetation and wildlife habitat
- Populations of threatened and endangered plants and animals that have been extirpated from an area.

At A Glance…

The NPS has 500,000 acres of managed lands which are in damaged condition resulting in:

- Lost plant and wildlife habitat
- Accelerated erosion
- Sedimentation
- Poor water quality
- Diminished water quantity
- Visual scars

Parks must determine appropriate levels and types of visitor use and permitted activities such as fishing, river use, backcountry use, and hunting. Parks must evaluate, plan, and design the appropriate type, location and level of activities that can be carried out without impairing resources. This often results in the development of a management or operations plan that utilizes an environmental assessment to evaluate alternatives and needed mitigation. These plans rely heavily on information developed especially through NPS inventory and monitoring projects, and in some cases data secured through research.

The NPS will continue active participation in the Southern Appalachian Mountains Initiative, the Western Regional Air Partnership, and other regional planning organizations that have been established to assist with implementation of the visibility protection programs in the Northeast, Southeast, Great Lakes, and Central regions. The NPS will provide critical visibility and ecological effects monitoring and research information to develop and implement regional solutions to difficult air pollution issues facing Shenandoah, Great Smoky Mountains, Grand Canyon and other national parks.

A significant potential external threat to park natural resources are the construction of new major sources of air pollution, particularly to those capable of affecting NPS units designated as Class I areas. In FY 2002, the NPS is continuing to expedite reviews of permit applications for new sources, actively working with permutes, and assisting States in permitting processes to reduce the levels of air pollution from these sources and miti-

All dollar amounts in thousands

gate potential adverse effects on park resources. This includes working with other federal land managers (i.e., U.S. Forest Service and U.S. Fish and Wildlife Service) to provide consistent guidance to permit applicants and to identify pollutant levels of concern.

In FY 2002, the NPS continues to inventory air pollution sources within parks to assess its own compliance with air pollution control, licensing, and emission fee requirements; and to develop strategies and mechanisms for reducing or preventing pollution caused by park operations or management practices with particular emphasis on smoke from wildland fires and vehicle-related issues.

Air Quality in Reporting Parks

Performance Measure	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Percent of air quality improvement in parks (from 1997 baseline)	51%	63%	65%

In FY 2002, the NPS will continue its comprehensive efforts to preserve native species and manage exotic species in parks. The focus of this approach is to assist park managers and staffs in addressing technically complex native species management needs requiring the application of scientific knowledge and often involving legal or policy related issues Additionally, these activities are actively working to incorporate biological and ecological expertise to provide an integrated approach to interrelated natural resource issues associated with wildland fire, contaminants and the ecological restoration of degraded areas.

FY 2002 efforts will include:
- Assessing the consequences of wildlife disease outbreaks
- Developing Integrated Pest Management procedures addressing the management of wildlife diseases potentially transmissible to humans
- Technical assistance to over 100 parks through on-site or remote consultations on pest management
- Designing mitigation measures to aid in the recovery of threatened and endangered species
- Preparing guidance for the safe and humane capture and chemical immobilization of wildlife
- Evaluating the effectiveness of management techniques in controlling invasive exotic plant species on parklands.

Species conservation activities addressing these tasks funded by the NPS in FY 2002 include:
- Restoration of habitat for the Indiana bat in Mammoth Cave NP
- Reintroduction of black-footed ferrets to Wind Cave NP
- Vehicle damage control in desert tortoise critical habitat of Lake Mead NRA
- Reintroduction of the Texas trailing phlox to the Big Thicket Npres
- Re-establishment of California red-legged frogs in Pinnacles NM
- Survey landform features associated with protection of the threatened Ute ladies'-tresses orchid in Dinosaur NM
- Restore Mohave Tui Chub habitat at Mojave Npres
- Determine the distribution of endangered mussels and new populations of invasive exotic zebra mussels at Saint Croix NSR.

At A Glance…

Endangered and Threatened Species
(1,244 listed species)
- One-third of all listed species occur in national parks, including:
  - 193 plants
  - 53 birds
  - 46 mammals
  - 40 fish
  - 19 reptiles
  - 43 invertebrates
  - 4 amphibians
- Recovery plans prepared by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service have assigned over 2,039 recovery tasks to the NPS.

Continuing in FY 2002, in conjunction with its native and endangered species programs, the NPS continues to expand its program to contain and reduce exotic (nonnative) species infestations, particularly those involving species capable of readily invading new environments or displacing native species in parks. Exotic species in at least 194 parks, especially invasive exotic species, are a serious problem and adversely effect other species that are native to the parks, including endangered species.

All dollar amounts in thousands

In FY 2002, five new specialized NPS Exotic Plant Management Teams (EPMTs) were established bringing the total to nine EPMTs Servicewide, and the Florida Partnership EPMT was expanded. The EPMTs are implementing high priority exotic species management efforts in over 106 parks and substantially contribute to achieving NPS performance goals. These regional or park-based teams include:

- Florida team (based at Florida International University in Miami)
- National Capitol Region team (based at Rock Creek Park)
- Chihuahuan Desert/Southern Shortgrass Prairie team (based at Carlsbad Caverns NP)
- Pacific Islands team (based at Haleakala NP)
- Columbia-Cascades team (based at North Cascades and Olympic NPs)
- California team (based at Point Reyes NS)
- Lake Mead EPMT (based at Lake Mead NRA)
- Northern Great Plains team (based at Theodore Roosevelt NP)
- Gulf Coast team (based at Big Thicket NPres)

Each EPMT serves a number of parks over a broad geographic area and works with these parks to identify, develop, conduct and evaluate exotic species removal projects and undertake appropriate native species restoration efforts. The NPS is using various approaches including integrated pest management and restoration actions, supported by current scientific information, to control exotic species populations in parks and to protect sensitive resources from destruction by exotic species.

The following table presents cumulative NPS acreage for disturbed land restoration projects initiated or planned in parks and the acreage of invasive species contained.

Disturbed Lands/Exotic Species Performance Information

Performance Measure	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Acres of lands restored that were impacted by former uses	7,500	8,900	13,500
Acres of invasive plant and animal species contained	181,300	204,200	222,000

In FY 2002, the NPS continued Servicewide management of geologic resources by concentrating on programs that provide specialized, scientifically-based support to parks, including expanded capabilities to address coastal and restoration geomorphology, and paleontology. Significant effort is being directed toward improved understanding of geologic processes at the park level and their interpretation to park visitors.

In addition, the NPS is continuing to protect park natural resources and values from adverse impacts associated with past, current, and future mineral development in and adjacent to parks. Formal plans incorporating appropriate resource protection and mitigation measures are required for private mineral development pursuant to implementing statutory requirements. NPS lands contain nearly 750 active private mineral exploration or development operations in 28 parks, most involving the production of oil and gas. Building on an oil and gas management plan for Padre Island NS completed in FY 2001, the NPS is undertaking similar planning efforts in FY 2002 to address long-term oil and gas management planning at Big Thicket NPres, Big Cypress NPres, and Lake Meredith NRA to ensure protection of park resources and values, and provide detailed guidance to industry to facilitate operation planning and regulatory compliance.

Abandoned mining, and oil and gas exploration and production sites represent a substantial portion of the disturbed lands in parks requiring restoration. The NPS currently has as estimated 3,000 abandoned mineral sites with over 11,000 hazardous openings, at least thirty miles of streams with degraded water quality, and more than 33,000 acres of disturbed land.

The NPS continues to address the restoration needs of abandoned mine lands (AML) within the parks. In FY 2002, the NPS is performing reclamation projects in eight parks. These projects include surface reclamation;

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watershed restoration; stream channel restoration; adit and shaft closures; and safety projects. Five of the projects were initiated in FY2001.

FY 2002 Servicewide Mitigation and Restoration Actions in Parks

Workload Factor	Actions	Parks Affected
Field Inspection of Ongoing Mineral Operations	10	2
Technical Review and Evaluation of Proposed Mineral Development Operations	77	10
Park Oil & Gas Management Plans and Environmental Planning Documents	3	3
Review Mineral Operations and Restoration Plans Adjacent to Parks	10	8
Mineral Operation Regulatory Compliance Actions	3	3
Abandoned Mine Lands Reclamation and Safety Projects	5	5
Disturbed Lands Restoration and Rehabilitation	14	12

The NPS is continuing to protect and secure water resources necessary to preserve park natural resources, restore water conditions that have been adversely affected by human influence, and ensure that water is available to meet visitor needs. This support is provided through technical and scientific evidentiary assistance; maintenance of water rights records; negotiation of settlements with other water users; response to State actions; participation in water rights proceedings; and verification of water rights and uses as required. Servicewide assistance is being provided in FY 2002 to more than 60 parks where water rights actions are underway. Projected NPS FY 2002 water rights technical assistance involvement, based on FY 2001 workload, are summarized below.

FY 2002 Water Rights Projected Accomplishments Actions

Workload factors	Actions	Parks Affected
Water Rights Applications Evaluated for Impacts to NPS Resources Protected Using State Laws	141	8
Water Rights Applications Protested Using State Laws	44	5
Settlements or Protected and Withdrawn	5	11
Proceedings in Progress (NPS Participating)	39	50

In FY 2002, funding for water resource protection projects will continue to support the protection of water resources necessary to preserve park natural resources, to restore water conditions that have been adversely affected by human influence, and to ensure that water is available to meet visitor needs. Project priorities are determined by the requirements of Federal or State law. Project efforts are targeted toward development of water resource information for use by Federal, State and local decision-makers.

FY 2002 water resource protection project funds primarily support on-going studies designed to characterize surface or ground water flow systems. In the desert Southwest, ongoing projects are developing modeling capabilities for regional ground water flow systems. In the eastern U.S., hydrologic studies are developing information on the effects of impoundments on surface river systems. This information is essential to assist park managers in understanding the potential for impacts to park water resources from water resource development proposals. Other studies investigate the relationship between water quantity and water-dependent park resources, such as riparian vegetation, fish migration, and fluvial processes.

In FY 2002, the NPS will continue its activities in other water resources areas, including the assessment and protection of water quality, floodplain management, groundwater analysis, watershed and wetlands protection, water resources management planning, and fisheries management. Servicewide funding will continue to support park projects to assess and restore water quality, map and restore wetlands, conduct hydrologic in-

All dollar amounts in thousands

vestigations, and carry out watershed and fisheries management planning. In FY 2002, the NPS anticipates responding to nearly 500 park technical assistance requests to address a wide range of water resource concerns identified by park managers. Examples of these technical assistance activities include the evaluation of proposed ecological restoration of Yosemite Valley in Yosemite NP; floodplain analyses and flood hazard mapping at Guadalupe Mountains NP, Pipestone NM, Saratoga NHP, and Big Bend NP; and continued assistance in the development of an annual operating plan for dams on the Lower Colorado River, affecting four park units.

Beginning in FY 2002, a funding increase associated with the Natural Resource Challenge will enhance NPS's ability to address high priority water, fishery, and aquatic resource issues facing parks. Park-based aquatic resource specialists will support Yukon-Charley Rivers NPres, Lake Clark NP&Pres, Mount Rainier NP, Point Reyes NS, Grand Canyon NP, Chattahoochee River NRA, Delaware Water Gap NRA, Saint Croix NSR, Isle Royale NP, and parks in the National Capital Region. In addition to these parks, the specialists will also support other parks within their area.

Under the Oil Pollution Act of 1990 (OPA), and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the NPS takes actions to protect park resources following the release of oil or hazardous chemicals, often from sources outside the parks. NPS protection of park resources is consistent with the National Oil and Hazardous Substances Pollution Contingency Plan and costs incurred by the agency can be recoverable under law. The NPS also conducts damage assessments to determine natural resources injury and restoration requirements as part of the Secretary's natural resource trust responsibilities under Federal law. These recoveries support restoration of damaged resources in a variety of park areas, including damages recovered for an oil spill into San Francisco Bay that affected Golden Gate NRA and Point Reyes NS. Within these parks damages recovered for this incident are being used by both the NPS and the State of California to carryout several restoration projects including restoring wetland habitat at Golden Gate NRA's Crissy Field and replacing dune habitat to enhance and improve piping plover populations. Examples of other natural resource recovery actions include:

- Dune restoration at Padre Island NS from an oil spill resulting from a tanker collision in the Gulf of Mexico
- Construction of a fish ladder at Little Falls Dam on the Potomac River in Washington, D.C.
- Construction of a boardwalk across important marsh land in Virginia as part of several multi-state and regional restoration projects following settlement of an oil pipeline spill into Sugarland Run and the Potomac River.

Through the FY2002 increase for resource protection and, specifically, implementation of the Park System Resources Protection Act (16 U.S.C. 19jj), parks are assisted in assessing resource damages caused by incidents other than oil spills or hazardous substances release and prepare restoration plans to repair damaged resources. Through these plans the NPS has initiate projects to restore damaged natural and cultural resources and facilities in numerous parks. These projects include the repair of coral reefs and sea grass beds damaged by boat groundings in Everglades NP and Biscayne Bay NP, replacement and study of data lost by the destruction of critical cultural/historical features in Fredericksburg & Spotsylvania NMilP and Richmond NBP, and the re-planting, stabilization and repair of vegetation and trees removed by trespass and encroachment incidents in various parks.

Performance Goals

Goal Ib4. Inventory park geologic processes and human influences that affect them

			Goals			
			Annual FY 2003		Long-term FY 2005	
Target	Measure	FY 2001 Base	Number	% of Base	Number	% of Base
Parks with significant natural resources	Parks with inventoried geologic processes and condition assessment	270	29	10.7%	54	20.0%

All dollar amounts in thousands

FY 2003 Budget Request: Natural Resources Management

Request Component	Amount
FY 2002 Budget Request	152,741
Programmatic Changes	
• Park Base – Operations	+584
• Inventory and Monitoring Program – Park Vital Signs	+6,900
• Accelerate Natural Resources Inventories	+4,250
• Assess Watershed Conditions	+3,100
• Monitor Water Quality in Parks	+500
• Expand Water Resource Protection and Restoration	+200
• Establish Additional Cooperative Ecosystems Studies Units	+400
• Native and Exotic Species Management (Servicewide)	+2,150
• Complete Resource Projects in Alaska	+500
• Greenspace for Living Initiative Program	-100
• Travel Reduction	-449
TOTAL, Program Changes[1]	**+18,035**
Uncontrollable changes	+1,058
FY 2003 Budget Request	**171,834**
Net change	+19,093

[1]Justification for program changes can be found at the end of this activity's presentation.

All dollar amounts in thousands

Subactivity: Resource Stewardship
Program Component: Everglades Restoration
FY 2002 Enacted: $10.869 million

FY 2002 Estimated Program and Anticipated Accomplishments

The National Park Service plays an important role in a cooperative effort to restore the natural ecological system of the Florida Everglades. In FY 2002, this effort included research and studies to support resource management decisions, implementation of the Everglades Restoration Plan, and support for the Task Force overseeing this multi-agency effort.

In 1997, the Critical Ecosystem Studies Initiative (CESI) was established to support science and research programs focused on Everglades restoration. This program supports an interagency science partnership to provide information that supports natural resources management and decisionmaking on DOI lands in South Florida. The program is designed to accelerate completion of scientific research and modeling studies, guide development of the Everglades restoration plan, and provide a scientific basis for implementation.

Funding At A Glance

Everglades
(million dollars)

Critical Ecosystem Studies Initiative	$4.000
Comprehensive Everglades Research Program	$5.544
South Florida Ecosystem Restoration Task Force	$1.325

The passage of the Comprehensive Everglades Restoration Plan (CERP) and its implementation in FY 2001 has added importance to the role of the CESI effort in providing a sound scientific basis for the next step, converting concepts and plans in water management into projects that result in Everglades restoration. While most of the science objectives and priorities associated with CESI are closely related to those found in the restoration plan, information needs met by the Critical Ecosystem Studies Initiative will now focus on specific critical water management projects and their potential effects on wetland and coastal natural resources. During the design and evaluation phases of specific water management projects in FY 2002, CESI will support simulation-based planning and evaluation, adaptive environmental assessments, and establish long-term ecological monitoring on Federal trust lands that is required by the adaptive assessment process.

Funding for the research program will end for the National Park Service in FY 2002 and is proposed to be placed under the United States Geological Survey (USGS) in FY 2003. As such, most of the projects supported by CESI will be brought to completion and those not yet completed will seek support under the new USGS program, Integrated Studies for Everglades Restoration. Everglades ecosystem monitoring programs, begun previously by the NPS, will also seek support under the USGS program. In response to concerns expressed by members of the Appropriation Committee on the adequacy and level of funding of the CESI program, the NPS will provide support for a program review to be conducted by the National Academy of Sciences, planned for completion by October 2002.

The CERP effort in 2002 will center on recruitment of the technical staff required to conduct adaptive assessments geared toward the restoration of natural systems in Everglades National Park, Biscayne National Park, and Big Cypress Preserve. NPS staff have roles in project management and analysis, rulemaking, recovery coordination, public outreach, and technical support. The NPS staff (39 FTE) will form part of a joint DOI team that will provide technical expertise in the interagency project formulation process, support independent assessments of project impacts and effectiveness, and conduct and evaluate long-term ecosystem recovery monitoring programs.

At A Glance…

In FY 2002, CERP funding will allow:

- NPS participation in conducting feasibility studies (Biscayne Bay, Florida Bay)
- pilot projects, such as seepage management - Lake Belt in-ground reservoir
- development of project implementation reports.

Support for the South Florida Ecosystem Task Force Office will be continued.

All dollar amounts in thousands

Applicable DOI Performance Goals

Protect the Environment and Preserve Our Nation's Natural and Cultural Resources

Long-Term Goal 1.2 Maintain Healthy Natural Systems

- By 2040, the South Florida Ecosystem Restoration Task Force will restore the hydrologic functions of wetland, marine, and groundwater systems within the South Florida ecosystem.
- By 2020, the South Florida Ecosystem Restoration Task Force will acquire an additional 550,000 acres of land for habitat protection.

FY 2003 Budget Request: Everglades Restoration

Request Component	Amount
FY 2002 Budget Request	10,869
Programmatic Changes	
• Critical Ecosystem Studies Initiative	-4,000
• Travel Reduction	-7
TOTAL, Program Changes[1]	**-4,007**
Uncontrollable Changes	+16
FY 2003 Budget Request	**6,878**
Net Change	-3,991

[1]Justification for program changes can be found at the end of this subactivity's presentation.

All dollar amounts in thousands

Subactivity: Resource Stewardship
Program Component: Cultural Resources Applied Research
FY 2002 Enacted: $17.960 million

FY 2002 Estimated Program and Anticipated Accomplishments

NPS conducts a program of basic and applied research in accord with current scholarly standards, to support planning, management, and interpretation of park cultural resources. Detailed, systematic data about resources and their preservation and protection needs are critical to effective management of the resources.

Cultural resource inventory systems manage and maintain data obtained through research. These systems provide the basic information necessary for park planning and development proposals, including data necessary to comply with archeological, environmental, and historic preservation mandates. The inventory systems also provide information essential to selecting appropriate and cost-effective strategies for managing, preserving, maintaining, interpreting, and providing public access to cultural resources. A number of the applied research activities are related to building and improving inventory systems.

At A Glance…

Current Inventory Systems

- Archeological Sites Management Information System (ASMIS)
- Ethnographic Resources Inventory (ERI)
- Cultural Landscapes Inventory (CLI)
- List of Classified Structures (LCS)
- Cultural Resources Management Bibliography
- National Catalog of Museum Objects (Automated National Catalog System-ANCS+)

The Cultural Resources Preservation Program (CRPP), provides funding for research projects described in this section and the resource management projects described in the Cultural Resources Management section that follows. Research projects include archeological, ethnographic, and historical research; museum collections cataloging, research, and management plans; and historic structure reports and cultural landscape reports.

Cultural Resources Preservation Program Projects Funded in FY 2002 and Proposed for FY 2003

Park Site	State	Project
Glacier Bay NP & P	Alaska	Ethnographic Landscape Study: Bartlett Cove
Governor's Island NM	New York	Archeological Overview and Assessment
Guadalupe Mountains NP	Texas	Cultural Landscape Report: Ship-On-The-Desert
		Historic Structure Report: Ship-On-The-Desert
		National Register Nomination: Ship-On-The-Desert
Haleakala NP	Hawaii	Life Histories Study
	Hawaii	Traditional Use Oral Study
Little Rock Central High School NHS	Arkansas	Historic Structure Report: Central High School
Lyndon B. Johnson NHP	Texas	Historic Furnishings Report: Texas White House
Martin Luther King, Jr. NHS	Georgia	Historic Structure Report: Martin Luther King, Jr.'s Last Home
San Antonio Missions NHP	Texas	Cultural Landscape Report: Mission Espada
San Juan NHP	Puerto Rico	Cultural Landscape Report: Fort Cristobal
Washita Battlefield NHS	Oklahoma	Ethnographic Overview and Assessment
	Oklahoma	Surveying Archival Collections
Wrangell-St. Elias NP & P	Alaska	Cataloging Artifacts at Historic Mining Sites

In FY 2002, the program targets three initiatives to improve the availability of basic cultural resources information for resource management planning and interpretive purposes. These initiatives include $2.4 million for the system-wide archeological inventory, evaluation, and documentation program; $884,000 for historic resource studies; and $1.3 million for the inventory and documentation of historic and prehistoric structures and cultural landscapes. In FY 2003, the CRPP will target $500,000 for a fourth initiative to catalog the backlog of museum collections.

All dollar amounts in thousands

Cultural resources research responsibilities include:

- **Archeological Resources:**
  -Basic archeological identification, evaluation, and documentation of resources in all parks
  -National Register of Historic Places documentation, as appropriate
- **Ethnographic Resources:**
  -Basic ethnographic surveys and field studies in parks
  -Ethnographic overviews and assessments to identify relationships with Native Americans and other ethnic groups associated with park resources
- **Historical Research:**
  -Historic resource studies, park administrative histories and other historical studies
  -National Register of Historic Places documentation
- **Cultural Landscapes:** Cultural landscape reports to determine appropriate treatment and use
- **Historic and Prehistoric Structures:** Historic structure reports to guide park management in treatment and use decisions
- **Museum Collections:**
  -Museum collection management plans, collection storage plans, collection condition surveys, and historic furnishings reports
  -Documentation (cataloging) for all museum objects

Performance Goal

Goal Ib2. Increase inventories and evaluations of NPS cultural resources

			Goals					
			Annual FY 2003			Long-term FY 2005		
Target	Measure	FY 1999 Base	Number	% of Base	Total	Number	% of Base	Total
Archeological Sites Information Management System	Additional recorded sites inventoried and evaluated	48,188	10,571	22%	58,759	16,866	35%	65,054
Cultural Landscapes Inventory	Additional cultural landscapes inventoried and evaluated at Level II	137	103	75.2%	240	159	116%	296
List of Classified Structures	Additional historic structures with updated information	27,000	19,845	73.5%	NA	22,707	84.1%	NA
Catalog of museum objects	Additional number of catalogued objects (millions)	37.3	8.9	23.9%	46.2	12,8	34.3%	50.1
Ethnographic Resource Inventory	Additional ethnographic resource records	400	1,692	423%	2,092	2,538	635%	2,938
Historic Resource Studies and Administrative Histories	Parks with current historical research completed to professional standards	384	76	19.7%	NA	112	29.0%	NA

Archeological Resources. The National Park System includes an astonishing number and variety of archeological resources – from Cliff Palace and other ancient dwellings, spectacular and humble, in the southwest, to the first permanent English settlement at Jamestown. The archeology program supports systematic research to locate, evaluate, document, report on, and interpret archeological resources; to nominate archeological properties to the National Register of Historic Places; and to recommend strategies for their interpretation, management, preservation, and protection.

Site records in the automated Archeological Sites Management Information System (ASMIS) continue to need updating. This effort includes recording standard information about each site systematically and electronically so that park, regional, and national management databases can be utilized for budget and management

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control. In FY 2001, significant effort was focused on providing efficient access to key ASMIS data for NPS archeologists and managers. A major focus in FY 2002 and future years will be the systematic updating and consistent recording of data for all known NPS archeological sites. A project to estimate the condition of archeological sites overall and to evaluate the quality of data recorded about site condition is under way. A final report is expected early in FY 2003.

The goals of the park archeology program are carried out through a variety of funding programs, the largest and most important of which is the Cultural Resources Preservation Program. In FY 2000, Servicewide funding for the archeological resources inventory evaluation and documentation was increased to $2.4 million. Other funding sources contribute approximately the same amount to National Park archeological investigations. The numbers that appear for the performance goals below represent information received as of December 1, 2001.

Archeological Resources Performance Information

Performance Measure	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Recorded sites with electronic records in ASMIS	55,733	56,621	58,759
Percent increase from the FY 1999 baseline for the number of sites recorded in ASMIS	15.6%	17.5%	21.9%

Archeological Resources Workload Factors

Workload Factors	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Estimated archeological sites	1,500,000	1,500,000	1,500,000
Recorded archeological sites (ASMIS and paper)	63,000	64,000	65,000
Archeological properties listed on the National Register of Historic Places	8,175	8,175	8,175
Acres of park land with some level of archeological investigation. [Annual acreage investigated under the national archeological inventory program is about 30,000 acres.]	7,285,000	7,305,000	7,335,000

Ethnographic Resources. Ethnography focuses on the identification and documentation of present-day people with long-term associations to existing or proposed parks, and on the cultural and natural resources that they invest with traditional cultural meaning. These resources include mountaintops, baptismal sites, urban neighborhoods, subsistence areas, and other places and landscapes that define a group's ethnic history and identity. Data on these resources and the people who value them are required for culturally appropriate and effective resource management and planning, and for establishing mutually beneficial alliances with communities associated with parks.

Ethnographic records are now being entered into the Ethnographic Resources Inventory (ERI) database. The national strategy for inventorying ethnographic resources, designed in FY 1998, is used to identify, evaluate, and document ethnographic resources. Funding for the ERI is provided by the Cultural Resources Preservation Program. Additional funding may be provided by other programs that affect ethnographic resources.

Differences in numbers for the performance goals between the Servicewide ERI database and NPS park unit data, provided elsewhere, is the result of the newly established programmatic approach to identifying ethnographic resources.

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Ethnographic Resources Performance Information

Performance Measures	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate
Ethnographic resource electronic records in Ethnographic Resources Inventory	1,246	1,669	2,092

Historical Research. A fundamental tenet of NPS historic preservation activities is that adequate research in support of planning and legal compliance precedes all final decisions about the treatment of cultural resources.

The NPS history research program is designed to provide parks with research necessary to support informed decision-making and interpretive activities. A fundamental document in that process is the historic resource study, which examines the tangible historic resources of a park and assesses their significance within larger historical contexts. Historic resource studies identify and evaluate historic resources providing sufficient information so that decisions regarding their management and interpretation can be made with authority. Baseline research also occurs with the development of administrative histories. These studies examine the institutional history of a park as a unit of the National Park System presenting an assessment of its establishment and management decisions that affected its development.

In addition, the results of this historical research serve the American public by enriching park interpretive programs and contributing to the public understanding of history.

Historic Resource Studies Completed In FY 2001

Park Unit	State	NPS Region
Abraham Lincoln Birthplace National Historic Site	Kentucky	Midwest
Channel Islands National Park	California	Pacific West
Fort Bowie National Historic Site	Arizona	Intermountain
Harry S. Truman National Historic Site	Missouri	Midwest
Washita Battlefield National Historic Site	Oklahoma	Intermountain

Historical Research Workload Factors

Workload Factors	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Parks with current Historic Resource Studies and Administrative Histories	30	55	75

Cultural Landscapes. Cultural landscapes range from large rural tracts, such as the Gettysburg battlefield and the Blue Ridge Parkway, to small designed landscapes, such as Frederick Law Olmsted's home and studio. The National Park Service defines a cultural landscape as "a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person, or exhibiting other cultural or aesthetic values." Cultural landscapes provide the physical environment associated with historical events and reveal aspects of our country's origins and development through their form, features, and use. As of the end of FY 2001, a total of 2,921 cultural landscapes have been identified.

Applied research defines the characteristics, features, values, and associations that make a landscape historically significant and provides the information necessary for park management decisions concerning treatment and use of cultural landscapes. This information is collected, analyzed, and organized through a variety of means, discussed below.

Cultural Landscapes Inventory. The Cultural Landscapes Inventory (CLI) documents the location, historical development, and current management of cultural landscapes. Landscapes included in the CLI are either eligible for the National Register or are to be treated as cultural resources by law, policy, or decisions reached through the park planning process. The inventory effort is usually conducted by the regional or support office,

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cultural resource center, or under contract. Efforts in FY 2002 will continue inventory work and document management information concerning significance, threats, impacts, condition, use, and approved treatments.

Cultural Landscape Report. The Cultural Landscape Report documents research concerning condition, causes of deterioration, necessary treatments, and treatment alternatives, as well as the development history or evolution of a landscape. It is the primary guide for park management decisions concerning landscape use and treatment. Cultural landscape reports are usually prepared by the regional or support office, cultural resource center, or under contract.

Cultural Landscapes Inventory Performance Information

Performance Measures	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Cultural landscapes inventoried at Level II on the Cultural Landscapes Inventory.	184	212	240

Historic and Prehistoric Structures. Park historic structures include Independence Hall, Fort Sumter, log cabins at Denali National Park and Preserve, the Statue of Liberty, and the sailing ship *Balclutha* at San Francisco Maritime National Historical Park, as well as prehistoric structures, such as Balcony House at Mesa Verde National Park. Historic structures are "constructed works…consciously created to serve some human activity." They include buildings, monuments, millraces, canals, ships, railroad locomotives, rolling stock, fences, defensive works, temple mounds, outdoor sculpture, and ruins. Historic and prehistoric structures and the events surrounding them are key park cultural resources, forming the basis for 232 park units, and are integral to many other parks.

Applied research provides information about treatment and use of historic structures for park management. Research focuses on three broad aspects of a historic structure: the historical, technical, aesthetic, or scientific associations; the developmental history or evolution; and the nature, performance, and capability of its material and systems. This information is organized as discussed below and contributes to meeting the NPS goal in the table below.

List of Classified Structures. The List of Classified Structures (LCS) is a computerized inventory that documents the location, historical development, and current management of historic and prehistoric structures and is used as an analytical tool at all organizational levels for budgeting, scheduling, and program development. Structures included are either eligible for the National Register or are to be treated as cultural resources by law, policy, or decisions reached through the park planning process. The LCS provides data to other automated systems such as the facility management system and is usually coordinated by the regional or support office or cultural resource center staff. In FY 2002, approximately $335,000 will be allocated to update 17.4 percent of the basic management information on the LCS concerning significance, threats, impacts, condition, use, and approved treatments and to add about 770 structures.

Historic Structure Report. The Historic Structure Report documents research concerning condition, causes of deterioration, necessary treatments, and treatment alternatives as well as the developmental history or evolution of a structure. It is the primary guide for park management decisions concerning structure use and treatment. Historic structure reports are usually prepared by support office or cultural resource center staff, or under contract.

Historic and Prehistoric Structures Inventory Performance Information

Performance Measures	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Historic and prehistoric structures listed on the 1999 List of Classified Structures			
Number with updated information	15,228	19,845	21,276
Percent of updated information	62.9%	68.2%	73.5%

All dollar amounts in thousands

Museum Collections. Museum collections from over 320 units of the National Park System are maintained in parks, at six NPS cultural resource centers, and at 142 non-Federal repositories. These collections date, in some instances, to the establishment of a park and comprise 31 million archeological, 3.5 million historical, 1.5 million biological, 191,000 paleontological, 28,000 ethnological, and 54,000 geological items, plus an additional 59.4 million archival and manuscript items. The collections include items ranging from historic furnishings in the home of John Adams, flags that flew over Fort Sumter, and Thomas Edison's handwritten notes on inventions, to botanical specimens from Yosemite and archeological items from Mesa Verde. These collections are important not only in their own right, but also because of their direct association with the nationally significant sites in the National Park System.

Parks acquire and document collections that support their mission and use those collections to increase public enjoyment and understanding of our heritage. This documentation leads to informed decisions about interpreting and managing park resources. For example, the drawings and photographs in the collection at Frederick Law Olmsted National Historic Site have enabled the park manager to make decisions about restoring the park's cultural landscape. The public has access to these collections through exhibits, interpretive programs, publications, the Internet, films and videos. In FY 2001, parks responded to over 35,000 public research requests, visitors viewed nearly 319,000 objects on exhibit in parks, and over 626,000 users viewed exhibits at the Museum Management Program Web site <http://www.cr.nps.gov/museum>.

Park staff, cultural resource center staff, partners, or contractors fulfill direct collections management functions. Support office and cultural resource center staff offer planning and technical assistance. The national office provides policy and technical guidance and develops Servicewide systems. The National Park Service's *Museum Handbook* provides guidance on acquiring, documenting and cataloging collections; writing collection management plans; facilitating public use of and access to collections through research, exhibits, and the Internet; and lending collections to other museums for research and exhibit. In FY2002, the public will be able to search park collections databases on-line via the Web Catalog.

Museum Collections Performance Information

Performance Measures	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Backlogged Objects Cataloged	1,207,000	750,000	750,000
Percent of Objects Cataloged	61%	63%	65%
Backlogged Archives Cataloged	1,808,000	1,190,000	1,190,000
Percent of Archives Cataloged	34%	36%	38%

FY 2003 Budget Request: Cultural Resources Applied Research

Request Component	Amount
FY 2002 Enacted Budget	17,960
Programmatic Changes	
• Park Base – Operations	+50
• Travel Reduction	-54
TOTAL, Program Changes[1]	**-4**
Uncontrollable Changes	+128
FY 2003 Budget Request	**18,084**
Net Change	+124

[1]Justification for program changes can be found at the end of this activity's presentation.

Subactivity: Park Management
Program Component: Cultural Resources Management
FY 2002 Enacted: $82.169 million

FY 2002 Estimated Program and Anticipated Accomplishments

Cultural resources management activities ensure the preservation, maintenance, and protection of cultural resources. Although parks do this work, regional and Servicewide offices provide support, especially for major preservation work. To be effective, this work must be ongoing. For example, lack of maintenance leads to accelerated deterioration, increased costs for repair, or the eventual loss of the cultural resource.

Cultural resources management responsibilities include:

- **Archeological Resources**
  -Maintain the integrity of the Archeological resources
  -Assist parks in protecting sites
  -Information about park resources is shared with professionals to increase the visitor understanding about their significance and their cultural value for ethnic groups associated with a certain resource.
- **Ethnographic Resources**
  -Provide baseline data on park cultural and natural resources and on cultural groups with traditional associations to them.
- **Cultural Landscapes and Historic and Prehistoric Structures**
  -Preserve and maintain historic and prehistoric structures and cultural landscapes
- **Museum Collections**
  -Preserve and protect collections to make them accessible for public enjoyment and knowledge

Assessments of park cultural resources indicate that archeological sites, historic and prehistoric structures, cultural landscapes, and museum collections are at risk because of various activities within and beyond park boundaries.

Cultural Resources Threats…

- Vandalism
- Lack of adequate storage and care of park museum collections
- Weather
- Air pollution
- Inadequate attention to stabilization, maintenance, and repair of structures, landscapes, and museum collections
- Failure to monitor changes in the resource
- Failure to correct improper uses

Archeological Resources. Archeological resources are susceptible to deterioration from natural forces of weather and erosion, looting or vandalism, and impact from park operations and visitors. Regular monitoring and maintenance is an important part of effective management. Archeological resources have commemorative, educational, and scientific values for many Americans. They also may have special cultural values for members of ethnic groups associated with specific resources. Our objectives in this program area are to maintain the integrity of archeological resources and ensure their long-term preservation for the enjoyment of visitors, their educational and scientific value for interpretation and research, and their cultural value for ethnic groups associated with particular resources.

The quality of this information on site condition is being evaluated as part of a special study; a final report of that research should be available in early FY 2003. Activities in FY 2002 and FY 2003 will focus on updating information for recorded sites and entering data for newly inventoried sites. Written guidance on the assessment of condition for archeological sites and for archeological site monitoring is being prepared for system-wide distribution.

All dollar amounts in thousands

Performance Goals

Goal Ia8. Improve the condition and data of archeological sites

		Goals					
		Annual FY 2003			Long-term FY 2005		
Target	Measure	FY 2002 Base	In Good Condition	% of Base	FY 2005 Base	In Good Condition	% of Base
Archeological sites	Sites with condition information in good condition	21,000	10,038	47.8%	>21,000	NA	50.0%

Archeological Resources Performance Information

Performance Measures	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Percent of archeological sites with condition information in the Archeological Sites Management Information System in good condition	47.3%	44%	46%
Number of sites in good condition, reported in ASMIS. [Note: for FY 2001 and 2002 baseline shifts.]	9,504	9,240	9,660

To assist parks in protecting sites, information about archeological resources in parks is shared with professionals and the general public to increase knowledge about their significance. In FY 2002, an online version of the archeological management system, ASMIS, will be made available to Park Service managers and specialists for park management purposes via an Intranet system. In FY 2002, an online data entry capability will be developed for the National Archeological Database. Information on archeological interpretation and research in the national park units is accessible electronically at <www.cr.nps.gov/aad>.

Archeological Resources Workload Factors

Workload Factors	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Estimated archeological sites	1,500,000	1,500,000	1,500,000
Incidents of archeological looting and vandalism in parks [Source: NPS Ranger Activities Division]	324	316	300
NPS archeological reports available online through NADB-Reports	6,270	6,400	7,000

Ethnographic Resources. Ethnographic research and consultation projects undertaken by NPS cultural anthropologists provide baseline data on park cultural and natural resources and on cultural groups with traditional associations to them. Data about peoples' ways of life and the resources they deem important in their ethnic history and identity contributes to the Ethnographic Resource Inventory and to the culturally informed decisions of park planners, managers and interpreters. Ethnographic work furthers the goal of inclusiveness by identifying little known or appreciated resources valued by Native American, African American and other culturally diverse people. Studies such as the Ethnographic Overview and Assessment, and Traditional Use projects, are conducted in cooperation with American Indians, Alaskan Natives and other Native Americans, as well as with African Americans, and other peoples.

Ethnographic studies provide:

- Identifications of tribes and other traditional stakeholders and documentation of ethnographic resources
- Data on ethnographic resources, including culturally meaningful landscapes, sites, structures and objects
- Strategies for consulting park-associated groups and data to inform planning, policy and guideline development
- Data for culturally-informed decisions about the use and protection of traditional park resources and landscapes in Alaska and elsewhere

All dollar amounts in thousands

- Identifications of culturally affiliated American Indians, Alaskan Natives and Native Hawaiians
- Reports on ways of life that enrich the libraries of the tribes, communities, and partners

Ethnographers consult traditionally associated peoples, and provide technical assistance to parks and park-associated communities and tribes to help create mutually agreeable solutions about the use of ethnographically meaningful resources.

Ethnographic Resources Workload Factors

Workload Factors	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Courses organized and taught Servicewide on park relationships to tribes and other traditionally associated peoples	57	57	57
Planning, policy, guideline, or research documents critiqued for ethnographic relevance Servicewide	222	222	222
Memberships on Interior, NPS, interagency, tribal and other planning teams	205	205	205
Servicewide projects to research ethnographic resources and associated peoples	78	78	78
Face-to-face consultations with tribes and other associated groups Servicewide	225	225	225

Cultural Landscapes and Historic and Prehistoric Structures. The preservation and maintenance of the 26,223 historic and prehistoric structures and 2,921 cultural landscapes is performed by park personnel or contractors with technical training and experience in the special skills necessary to inspect, monitor, maintain, and preserve these resources in accordance with written procedures developed by resource specialists. Complex preservation work is conducted under supervision of professional staff from parks, regional or support offices, resource center staff, or under contract.

Work includes general tasks such as scheduled inspections, condition assessments, monitoring, rejuvenative pruning, stabilizing prehistoric ruins, arboricultural services, repainting weathered historic buildings, vista management, replacing roofs, replacement of missing or deteriorated plant material, and monitoring structural movement.

Performance Goals

Goal Ia5. Increase the number of historic structures on the List of Classified Structures that are in good condition

		Goals					
		Annual FY 2003			Long-term FY 2005		
Target	Measure	FY 2002 Base	In Good Condition	% of Base	FY 2005 Base	In Good Condition	% of Base
Structures on the current year List of Classified Structures	Structures in good condition	28,700	13,489	47%	>28,700	NA	48%

All dollar amounts in thousands

Goal Ia7. Increase the number of Cultural Landscapes that are in good condition

		Goals					
		Annual FY 2003			Long-term FY 2005		
Target	Measure	FY 2002 Base	In Good Condition	% of Base	FY 2005 Base	In Good Condition	% of Base
Listings on the Cultural Landscape Inventory	Landscapes with condition information in good condition	588	194	33.0%	>588	NA	35.0%

Historic and Prehistoric Structures and Cultural Landscapes Performance Information

Performance Measures	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Historic and prehistoric structures listed on current List of Classified Structures in good condition			
Number	11,535	12,150	13,489
Percent	44%	45%	47%
Cultural landscapes listed on the current Cultural Landscapes Inventory with condition information in good condition			
Number	140	162	184
Percent	30.8%	32%	33%

Museum Collections. Museum collections from over 320 units of the National Park System are maintained in parks, at six NPS cultural resource centers, and 142 non-Federal repositories. The collections include 32.9 million archeological, ethnographic and historical objects, 1.4 million biological, geological, and paleontological specimens, and 59.4 million archival and manuscript items. Some are individually significant, such as George Washington's campaign tent at Colonial National Historical Park. Others are recognized as part of a systematic scientific collection, such as the archeological collections from Chaco Culture National Historical Park. Others are important for their contribution to the interpretation of a site, such as the eyeshade in the office at Carl Sandburg Home National Historic Site.

NPS Museum Collections

The collections include:

- 32.9 million archeological, ethnographic and historical objects
- 1.4 million biological, geological, and paleontological specimens
- 59.4 million archival and manuscript items

Parks preserve and protect collections to make them accessible for public enjoyment and knowledge. Parks monitor and control collection storage and exhibit environments, provide security and fire protection to minimize the risk of damage and loss, assess the condition of individual objects, and provide cleaning, stabilization and other treatments. Park staff, cultural resource center staff, partners, or contractors provide direct collections management functions. Support office and cultural resource center staff provide planning and technical assistance. The national office provides policy and technical guidance and develops Servicewide systems.

The National Park Service provides parks with collections preservation and protection guidance in the *Museum Handbook* and *Conserve O Gram,* which are also available to the general public on the Web and are popular resources in the Nation's museum community at large. Using the NPS Checklist for Preservation and Protection of Museum Collections (Checklist) parks assess museum storage and exhibits relative to professional standards for environment, security, fire protection, housekeeping and planning, taking corrective actions as needed.

In FY 2001, parks made many improvements to the preservation, protection and accessibility of museum collections, correcting over 1,500 checklist deficiencies.

All dollar amounts in thousands

Anticipated Projects in FY 2002 and FY 2003

Park Site	Project
Chaco Culture National Historical Park	Install compact shelving to more efficiently store its archival collections.
Edison National Historic Site	Assess historic artifacts that contain hazardous substances and develop mitigation strategies.
Fort Necessity National Battlefield	Install a fire suppression system in the historic Mount Washington.
Martin Luther King, Jr., National Historic Site	Conduct a condition survey of its collections.

Performance Goals

Goal Ia6. Improve storage and exhibit conditions

		Goals	
Target	**Measure**	**Annual FY 2003**	**Long-term FY 2005**
Preservation and protection in collection facilities	Percent of applicable standards met	69.9%	72.3%

Museum Collections Performance Information

Performance Measures	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Percent of conditions in park museum collections meeting professional standards	67.5%	68.7%	69.9%
Number of preservation/protection deficiencies corrected	1,538	946	946

Interior Museum Property Program. The Interior Museum Property Program, in partnership with the NPS and other bureaus, develops and coordinates Departmentwide museum policy and strategies. The program provides training and technical assistance to bureaus and offices in implementing museum property management plans for more than 130 million Interior museum property artifacts, specimens, and documents.

In FY 2002 and FY2003, the Department will provide training workshops and services to the growing number of customers who use collections for research, resource management, and exhibits. The DOI Museum Services Branch will provide technical assistance to bureaus addressing large backlogs in basic inventory of collections and other management deficiencies. This assistance is for more than 650 DOI facilities and more than 650 non-Federal institutions that partner with Interior bureaus to manage our collections. The outcome of these activities will be increased accountability for and use of Department of the Interior museum collections in resource management, research, and public interpretation programs in the Department and its non-Federal partner institutions.

Applicable DOI Performance Goals – Interior Museum Property Program

Long-term Goal	By September 30, 2005, increase by 35% the number of museum objects available for research or public interpretation by improving our accountability for these resources, as measured against a baseline established in FY 1998 [36,376,000].

Interior Museum Property Program Performance Information

Performance Measures	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Number of museum objects accurately cataloged [baseline 36,376,000]	48,899,000	50,839,000	52,779,000

All dollar amounts in thousands

Native American Graves Protection and Repatriation Act (NAGPRA). The program contributes to the compliance of the NPS with NAGPRA. The goals are to

1. Provide required public notices, ensuring that proper definitions and affiliations are utilized, in the Federal Register or local newspapers, describing Park NAGPRA inventory completions or intent to repatriate Native American human remains or cultural items to appropriate lineal descendents, Indian Tribes, or Native Hawaiian organizations,
2. Help parks establish and maintain effective relationships with affected American Indian Tribes, Alaska Natives, and Native Hawaiian organizations,
3. Ensure that clear advice and recommendations are available to NPS managers regarding cultural affiliation, appropriate documentation and study, and repatriation,
4. Work collaboratively with tribes, Native Hawaiian organizations, museums, and other public agencies to effect implementation of the law, and
5. Assist parks in drafting public notices and developing appropriate approaches for Native American grave protection, archeological investigations, and collections treatment related to NAGPRA.

Professional cultural affiliation studies are conducted by field units; training and assistance is provided to park staff; and, professionally sound information needed to address legislative and policy requirements is provided. Funding provides for Servicewide program coordination and activities at the national, regional, and park levels for documentation, consultation, and investigations.

Native American Graves Protection Act Workload Factors

Workload Factors	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Notices of intent to repatriate and inventory completion reviewed and published	16	20	20

Vanishing Treasures. This program was established in FY 1998 to provide funds to reduce threats to ancient prehistoric and historic sites and structures in 41 parks of the western United States. The goal is to overcome backlogged preservation work by bringing the sites and structures to a condition in which they will be preserved by routine maintenance activities. The intent also is to increase NPS expertise and capability for maintaining these sites and structures. The cadre of skilled preservation specialists is aging and their numbers declining. There has been insufficient growth to assure a steady stream of entry-level replacements. In 1997, the number of preservation specialists was estimated at ten full-time and 25 seasonal or part-time workers, and it was estimated that this workforce needed to be increased by approximately 150 full-time individuals.

Vanishing Treasures FY 2002 Funding

Park Base	$2,781
Projects	1,038
Management/Oversight	60
Total	**$3,879**

The program includes implementation of immediate preservation treatment actions and documentation, planning and management of projects, and development and training of a skilled workforce. Parks, centers, or support offices, depending upon the nature of each project, have oversight. Project funds are managed at the regional level. Funds sufficient to rebuild the skilled workforce and other expertise are provided at the park level.

All dollar amounts in thousands

Anticipated Projects in FY 2002

Park	Project
Bandelier National Monument	Preserve Frijoles Canyon Cavates
Big Bend National Park	VT Ruins Stabilization – Dorgan House
Canyonlands National Park	Conduct Salt Creek Condition Assessment
Chaco Culture National Historical Park	Implement Backfill Program at excavated Backcountry Structures
El Malpais National Monument	Stabilize and Reduce Erosion within Archeological Sites
El Morro National Monument	Study Animal Impacts on Archeological Sites
Fort Bowie National Historic Site	Primary Resource Preservation, Phase II
Fort Davis National Historic Site	Cap and Mud Adobe Walls on Four Historic Structures
Fort Laramie National Historic Site	Complete Lime Grout/Lime Plaster Research Program
Grand Canyon National Park	Architectural Documentation and Preservation Treatment at Sites
Hovenweep National Monument	Document and Treat Cutthroat and Hackberry Architecture
Mesa Verde National Park	Document and Treat Spring House
Navajo National Monument	Conduct Condition Assessment at Snake House, Owl House, Kiva Cave, and Turkey Cave
Pecos National Historical Park	Stabilize and Preserve Ruins
Salinas Pueblo Missions National Monument	Emergency Repair of ABO Drainage System
Tonto National Monument	Stabilize Collapsed Rockwall at the Upper Cliff Dwelling
Tumacacori National Historical Park	Mission Preservation
Walnut Canyon National Monument	Document Ranger Ledge Sites and Develop Site Plans
Wupatki National Monument	Perform Preservation Activities and Address Drainage Problems

Vanishing Treasures Workload Factors

Workload Factors	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Projects resulting in improved site conditions	16	19	22
Maintenance experts trained	2	3	3
Discipline experts trained in Vanishing Treasures conservation	2	4	5
Vanishing Treasures records of individual sites increased	50	60	60

National Underground Railroad (UGRR) Network to Freedom. The National Underground Railroad Network to Freedom Act (Public Law 105-203) authorizes the National Park Service to coordinate and facilitate activities that commemorate and interpret the Underground Railroad (UGRR). NPS is required to create and maintain a national Network of interpretive sites, programs and facilities related to the Underground Railroad. NPS staff review applications and approve listings on the network. NPS is also directed to develop educational materials and provide technical assistance to organizations engaged in related activities to document, preserve, and interpret Underground Railroad history. The program is administered in cooperation with community organizations, State Historic Preservation Offices, educational institutions, museums, historical societies, and other public and private agencies.

In fiscal year 2001, the Network to Freedom was formally launched, and the new program logo unveiled. A website has been created for the program and it will include a database of Network listings (http://www.cr.nps.gov/ugrr). The program continued to provide technical assistance in person through 106 site visits (many involving multiple properties) or planning meetings, participation in 68 conferences or work-

All dollar amounts in thousands

shops and sponsoring 12 "Gatherings" or public forums to facilitate networking. Program staff also provided extensive assistance through telephone contacts, conference calls, and responses to electronic mail inquiries.

In FY 2002, the NPS anticipates the addition of another 74 sites, programs and facilities to the Network to Freedom and completion of the database associated with the program's Web site. The NPS will prepare additional educational materials and a publication on documenting UGRR sites. NPS will also continue to facilitate networking among our UGRR partners through sponsoring "Gatherings" and participating in conferences. In FY 2002, NPS will implement a newly funded grant program. By the end of FY 2003, NPS anticipates over 220 sites, programs and facilities will be included in the Network to Freedom.

National Underground Railroad Network to Freedom Workload Factors

Workload Factors	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate
Network to Freedom Applications	127	146	168
New Network to Freedom Listings	64	74	85

Resource Management Planning. The Resource Management Plan is the blueprint for comprehensive management of park resources, defining natural and cultural resources objectives, documenting resources status, and outlining a plan of action to ensure their wellbeing. The plan helps park managers to integrate cultural resource considerations into daily operations and long-term planning. Over 70 percent of the parks that are required to prepare plans have done so and regularly update them.

Cyclic Maintenance for Historic Properties Program. The objective of this program is to provide the means to accomplish park maintenance activities that occur on a fixed, predictable, periodic cycle longer than once in two years, for all tangible cultural resources. Examples of projects include re-pointing masonry walls of historic and prehistoric structures, pruning historic plant material, stabilizing eroding archeological sites, and preventive conservation of museum objects. This program is funded at $10.4 million in FY 2002.

Cultural Resources Preservation Program. This national program provides funds for security, environmental control and other concerns for museum collections, and for the urgent stabilization and preservation of archeological and historic sites, structures, cultural landscapes, and museum objects.

This program sets aside $2.0 million to address stabilization needs for 100 of the most important historic and prehistoric structures.

Examples of Structures to be Stabilized in FY 2002

Park	Project
Antietam National Battlefield	Newcomer Barn
Apostle Islands National Lakeshore	Michigan Island Light Station First Tower Keepers Quarters
Gulf Islands National Seashore	Fort Massachusetts Scarp Wall
Lyndon B. Johnson National Historical Park	Sam E. Johnson, Sr. Farmhouse
Point Reyes National Seashore	D Ranch Old Milking Barn
Saint Paul's Church National Historic Site	Grave Markers
Wrangell-St Elias National Park & Preserve	Kennecott General Managers Office

Parks also will undertake projects to improve the preservation and protection of their museum collections. In FY 2002, Frederick Law Olmsted National Historic Site will provide intermediate and advanced conservation treatment for approximately 1,000 plans and drawings in the Olmsted Archives. Carl Sandburg Home National Historic site will reformat Sandburg audio recordings for long-term preservation. Examples of FY 2003 projects include improving storage for and microfilming the Custer collection of historic newspaper clippings at Little Bighorn Battlefield National Monument and conducting a fire and security survey for the museum collections at Mammoth Cave National Park.

All dollar amounts in thousands

Various kinds of projects are necessary to improve or maintain archeological sites in good condition. A range of approaches may be required, including: investigations, treatments, and documentation; the development and implementation of long-term monitoring programs; stabilization; or other conservation techniques. Projects, funded by this program, are necessary to maintain or improve the condition of archeological resources in National Park units.

Support Offices and Cultural Resource Centers. Specialists at support offices, cultural resource centers, and the Harpers Ferry Center carry a share of the preservation maintenance workload for parks that lack the necessary personnel.

At A Glance

Specialists are often stationed in centers or support offices for cost effectiveness.

- Applied Ethnographers
- Archeologists
- Archivists
- Conservators
- Curators
- Historians
- Historical Architects
- Historical Landscape Architects

Contract work frequently augments staff or provides specialized expertise. Centers provide research, project supervision, technical assistance, management planning, and centralized management of museum objects. The NPS maintains the following cultural resource centers:

- Alaska Regional Curatorial Center
- Midwest Archeological Center
- Museum Resource Center (National Capital Region)
- Northeast Cultural Resources Center
- Northeast Museum Services Center
- Olmsted Center for Landscape Preservation
- Southeast Archeological Center
- Western Archeological and Conservation Center

FY 2003 Budget Request: Cultural Resources Management

Request Component	Amount
FY 2002 Enacted Budget	82,169
Programmatic Changes	
• Park – Base Operations	+365
• Travel Reduction	-328
TOTAL, Program Changes[1]	**37**
Uncontrollable Changes	+773
FY 2003 Budget Request	**82,979**
Net Change	+810

[1]Justification for program changes can be found at the end of this activity's presentation.

Subactivity: Resource Stewardship
Program Component: Resources Protection
Enacted FY 2002: $45.258 million

FY 2002 Estimated Program and Anticipated Accomplishments

At A Glance…

Resource protection is achieved through:

- Management of legal consumptive uses
- Prevention of illegal consumptive activities
- Phase out of unauthorized uses
- Approved provision for non-recreational special park uses
- Resolution of boundary issues

Natural and cultural resources are continually threatened by human impacts and uses and by such illegal activities as poaching which causes harm and, in some cases, destruction of the resources for which national parks were established.

Natural resources protection is one of the many responsibilities of park law enforcement personnel and of all NPS employees. The protection of resources is accomplished through a program of patrols, investigations, remote surveillance, employee education, public education, improved security and increased interagency cooperation. Preventive measures focus on educating visitors and particularly offenders as to the effect of inappropriate or illegal behavior on irreplaceable resources. Similarly, educating NPS employees and visitors about the impact of their work habits and behavior on the quality of resources provides effective long run preventive protection and helps them as well as recognize illegal activities.

The poaching of wildlife from national parks has been steadily increasing each year for the past several years. An assessment conducted by the NPS indicated that poaching involves the illegal removal of 105 species of wildlife from approximately 153 park areas around the country. A recently completed two year investigation yielded in excess of 250 prosecutable cases on various wildlife and plant crimes, it also produced a large volume of data that indicates there is a significant trade and illegal market in wildlife and plant parts from National Park areas. The data suggests that there is a significant domestic as well as an international market for these illegally taken plant and animal parts. Wildlife are poached for different reasons, often for food or for the sale of body parts to a local or international commercial market.

The illegal removal of wildlife from the parks is suspected to be a factor in the decline of at least twenty-nine species of wildlife, and may lead to the extirpation of nineteen species from the parks. In addition, several species of wildlife Federally listed as threatened or endangered are being killed within units protected by the National Park Service.

Federally Listed Threatened and Endangered Species Poached in National Parks

Endangered	Threatened
Bald Eagle	Steller Sea Lion
Peregrine Falcon	Grizzly Bear
Hawksbill Sea Turtle	Spotted Owl
California Brown Pelican	Greenback Cutthroat Trout
Schaus Swallowtail Butterfly	Green Sea Turtle
	Loggerhead Sea Turtle
	Desert Tortoise

Why Animals Are Poached

Animal	Commercial Product	Use	Where Traded
Bear	Gall Bladders	Medicinal Purposes	International
	Paws	Medicinal Purposes	International
Elk	Antlers	Medicinal Purposes	Asia
Yellow-Crowned Night-Herons	Meat	Food	National/International
Raptors	Animal	Falconry	National/International
Snakes	Skins	Fashion	National/International
	Animal	Pets	National/International
Paddlefish	Caviar	Food	National/International

Annual Law Enforcement Statistical Report. The National Park Service uses an annual report on law enforcement activities within the parks which includes data on resource crimes as its baseline document. For some years it has been known that resource crimes constitute the largest single category of crimes in the parks. Examples include poaching of plants and animals, timber cutting and theft, Archeological Resources Protection Act (ARPA) crimes, driving off road and encroachment on to NPS lands.

Environmental Crimes. The natural environment within and immediately adjacent to national park areas is the subject of growing concern from past and present environmental crimes and clean water issues. Urban sprawl threatens to increase these types of offenses. No longer will we face just the dumping of residential trash but we are now experiencing industrial dumping of solvents, asbestos and other toxic materials in remote areas around and within the parks.

The Service is proactive in the environmental crimes arena. Through the recent establishment of an environmental crimes unit, the NPS will begin increased enforcement and dedicated educational programs for both the park visitor and park neighbors. Plans are in place to support a training initiative in cooperation with the Environmental Protection Agency.

Site destruction. The NPS in calendar year 2000 documented 326 violations where archeological resources were damaged or destroyed. These included Indian burial sites, tools, weapons, pottery, and baskets associated with historic and prehistoric subsistence and village sites; ceremonial sites; and shipwrecks and associated artifacts. Paleontological resources, ranging from complete dinosaur skeletons to fossilized amber crystals containing prehistoric animal embryos, are also being depleted by a growing illegal domestic and international market. In addition to pillaging of public lands through illegal excavation, thefts of fossil resources have also occurred in NPS and other public museums.

Successes…

- NPS investigators have shut down organized Native American graves desecration activities and returned the human remains to ancestral burial grounds.
- A paleontological protection program in the Rocky Mountain region enabled rangers to uncover a major fossil poaching organization involving several States within the United States and South American countries.

The Archeological Resource Protection Act (ARPA) provides protection of archeological sites in parks through increased monitoring and law enforcement activities to reduce, control, and eliminate criminal looting and depredations of the resources. The use of ARPA funds, which are distributed to the parks, has resulted in an increase of hundreds of new cases with the added benefit of increased site protection throughout the NPS. NPS plans to increase these investigative efforts and to support additional multi-agency investigations. Some funds will be spent on increased training of investigative and resource protection staff and to support long-term investigations in areas where past activities have shown that looting and theft are still occurring and may be increasing.

All dollar amounts in thousands

Resources Protection Workload Factors

Workload Factors	CY 2001 Actual	CY 2002 Estimate	CY 2003 Estimate
Commissioned rangers	1,587	1,575	1,555
Part-time rangers	499	490	482
ARPA cases	326	316	300
Vandalism cases	3,036	3,020	3,012
Resource incidents	14,316	14,300	14,280

Alaska Subsistence. Within the State of Alaska, the NPS has a unique responsibility for resources protection as mandated by the Alaska National Interest Lands Conservation Act (ANILCA) of 1980. The act contains provisions that prioritize consumptive uses of fish and wildlife for rural residents of the State of Alaska. Federal agencies are now charged with implementing the subsistence provisions on public lands as required by ANILCA. The NPS is responsible for monitoring the taking of consumptive resources on parklands. Priority over all other consumptive uses is based upon local rural residency, availability of alternative resources, and a customary and direct dependence upon the fish and wildlife populations as the mainstay of livelihood. Minimal ANILCA requirements consist of protecting fish and wildlife resources on Federal public lands; studies to document subsistence use by area and species; development of management plans, policies and regulations for subsistence seasons and bag limits; and creation of an extensive public information/awareness system.

In FY 2000, the Federal program was significantly expanded to include fisheries management on approximately 60 percent of the navigable waters within the State of Alaska covering more than 18,000 miles of rivers and streams in NPS areas in Alaska. The court-ordered assumption of fisheries management has greatly expanded the complexity of the subsistence program. The scope of fisheries management in Alaska is immense and complex, particularly for the commercially important Pacific salmon species. Many vitally important salmon populations throughout Alaska have declined in recent years, putting increased pressure on managers to provide for the utilization of subsistence resources without threatening the conservation of those resources.

In FY 2002 NPS will provide overall oversight and management of the National Park Service subsistence fishery management program, including

- Coordination with subsistence users, and with park, monument and regional subsistence advisory bodies
- Development of annual and long-term subsistence fishery regulations; coordination and oversight on interagency fishery resource monitoring projects, including the collection of traditional ecological knowledge
- Participation in interagency planning for subsistence fisheries management
- Participation as a member agency to the Federal Subsistence Board.

NPS will also provide for increased support to park and monument Subsistence Resource Commissions, participation in Regional Advisory Council meetings, and greater involvement with local partners in conducting field-based resource monitoring projects. Participation in these activities is essential to ensure that the natural and cultural resources, and associated values, of the Alaska parks are protected, restored and maintained in good condition and managed within their broader context.

All dollar amounts in thousands

FY 2003 Budget Request: Resources Protection

Request Component	Amount
FY 2002 Enacted Budget	45,258
Programmatic Changes	
• Park Base – Operations	+355
• Travel Reduction	-149
TOTAL, Program Changes[1]	**+206**
Uncontrollable changes	+351
FY 2003 Budget Request	**45,815**
Net change	+557

[1]Justification for program changes can be found at the end of this activity's presentation.

Justification of FY 2003 Budget Request for Resource Stewardship

Request Component	Amount
FY 2002 Enacted Budget	318,312
Programmatic Changes	
• Park Base – Operations	+1,354
• Natural Resource Challenge	
• Inventory and Monitoring Program – Park Vital Signs	+6,900
• Accelerate Natural Resources Inventories	+4,250
• Assess Watershed Conditions	+3,100
• Monitor Water Quality in Parks	+500
• Expand Water Resource Protection and Restoration	+200
• Establish Additional Cooperative Ecosystems Studies Units	+400
• Native and Exotic Species Management (Servicewide)	+2,150
• Complete Resource Projects in Alaska	+500
Subtotal, Natural Resource Challenge	[+18,000]
• Greenspace for Living Program	-100
• Critical Ecosystems Science Initiative	-4,000
• Travel Reduction	-1,000
TOTAL, Program Changes	**14,254**
Uncontrollable changes	+2,357
FY 2003 Budget Request	**334,923**
Net change	+16,611

Park Base – Operations: $1.354 million, 10 FTE

The NPS is proposing an increase of $1.354 million and 10 FTE at parks in FY 2003 to address a number of specific, high priority operating requirements. As part of the annual budget review process, park managers have identified and prioritized a wide range of unfunded operational needs using the Service's Operations Formulation System (OFS). The web-based, interactive OFS system, which also captures the incremental impact of the identified increase on performance, has resulted in improvements in the budget formulation process, including greater consistency, enhanced linkage of budget to performance, and efficiencies related to

All dollar amounts in thousands

the use of technology. This FY 2003 budget proposal addresses the most pressing of the Service's park operational concerns.

The funding would allow for such critical requirements as increased protection of resources, enhanced law enforcement, more efficient maintenance operations, initial operation of new facilities and park units, and funding for special events such as the celebration of the centennial of flight. The specific increases contained in this proposal cut across functional categories as described by the NPS budget structure. Of the total amount requested, $ 1.354 million and 10 FTE are estimated as the amount to be applied to the Resource Stewardship budget subactivity. For a more comprehensive examination of the park increases contained within this proposal (as well as park increases that are part of the Counter-Terrorism Initiative), please refer to the Analysis of Park Increases in the Summaries section of this budget document.

Inventory and Monitoring Program – Park Vital Signs: $6.900 million, 45 FTE
A major goal of the Natural Resource Challenge is to establish a framework for measuring NPS performance in preserving natural resource conditions in national parks. To build such a framework, the NPS needs baseline data through inventory and monitoring and ways to track the "vital signs" that most effectively show changes in park resources. Funding is requested to extend park vital signs monitoring to five additional networks, which include 52 park units. This addition will bring the total of parks funded for monitoring to 153, representing 57 percent of the parks for which monitoring is planned. Geography and shared natural resource characteristics link the parks in each network. Monitoring through a cooperative network approach facilitates collaboration, sharing of expertise and information, economies of scale. The proposed funding will provide the minimum infrastructure for monitoring only the most critical park needs and issues, but these efforts can be expanded in the future.

This program provides basic resource information necessary for effective, science-based managerial decision-making and for measuring performance in managing park natural resources. For example, data from 5 years of monitoring the island fox population at Channel Islands National Park indicated that the park's fox population was in grave danger of becoming extinct – in time for park managers to initiate a captive-breeding program and effectively stabilize the population. The networks are also important for inter-agency, state and local collaboration. Cape Cod National Seashore's monitoring data are being shared with neighboring municipalities to allow both the NPS and local towns to better evaluate environmental impacts of proposed actions outside park lands. In addition, the data is being shared with state agencies to assist in statewide planning and analyses, and to evaluate the regional importance of Cape Cod to state threatened and endangered species such as the piping plover. Proposed networks for FY 2003 are as follows:

Park Vital Signs Networks

	Network	Reference Park	Total Parks
1	Great Lakes	Indiana Dunes National Lakeshore	9
2	Northeast Temperate	Acadia National Park	10
3	Pacific Islands	Hawaii Volcanoes National Park	9
4	Southern Colorado Plateau	Grand Canyon National Park	19
5	Southwest Alaska	Lake Clark National Park and Preserve	5
	Total New Parks		**52**

Monitoring priorities for the proposed FY 2003 networks can not be fully established until after the parks evaluate existing information and conduct comprehensive scoping workshops early in the process. However, a number of the monitoring needs and issues are known for some of the parks. For example:

- A major threat to Pacific Island parks is the introduction and spread of exotic species, which in island ecosystems can create rapid change at population, community, and ecosystem levels. A servicewide Exotic Plant Management Team provides response capability for plant invasions to Hawaiian parks. However, the team can be most effective when monitoring identifies new invasions that can be eradicated before they become widespread.
- Pacific Island parks also need monitoring to determine the effectiveness of management actions such as controlling feral pigs and other exotic species and prescribed burning and seeding to restore degraded

lowland communities. Pacific Island parks also have inadequate trend data to manage endangered hawksbill turtles, Nene (Hawaiian goose), Dark-rumped Petrel, Samoan birds and fruit bats, monk seals, and threatened and endangered coastal plants.

- In Southern Colorado Plateau parks, changes in vegetation patterns due to fire suppression, other management actions, and past land uses are causing changes in plant and animal populations. In a number of areas, some mammal species have been eliminated. Monitoring plant and animal population trends will provide information to determine the need for and the effects of management actions.

This increase is part of the $18.0 million Natural Resource Challenge request.

Accelerate Natural Resource Inventories: $4.250 million

Since the 1992 commencement of a natural resource Inventory and Monitoring Program, the NPS has made substantial progress in completing its basic inventories. Funding is requested to accelerate the completion of three component inventories: vegetation, geologic and water body mapping.

Vegetation mapping remains the most costly component of the inventory program, so that completion of vegetation maps is still significantly lagging behind other inventories. Vegetation maps are the highest priority inventory for many parks. The USGS cooperates with NPS to produce detailed, computerized maps of the vegetation of National Park System units that meet National Mapping Accuracy Standards. A standard process is followed for each park mapping project using documented, peer reviewed protocols which include a national vegetation classification system, and field method, and map accuracy assessment procedures. Although much of the actual field work, including vegetation classification, mapping, and accuracy assessment, are conducted by non-government contractors, the entire process is closely monitored by USGS and NPS staff. The 28 final products prepared for each mapped park unit are provided digitally on the USGS web site. Products generally include: classification reports, keys and descriptions, aerial photography and overlays, spatial data, and accuracy assessment data. At the current rate, it will require 9 years to complete vegetation mapping inventories. With this increase, this mapping could be significantly accelerated.

Progress on obtaining geology inventories has been slow. Geologic information has proved very useful to the parks that have received geologic inventories. Parks are using the information to add to their understanding of the park's geology for scientific, educational, or interpretive purposes. It is used in traditional geologic applications, such as dealing with landslides, rockfalls, or human health and safety issues. It is also being integrated with other, non-geologic information to assist in management decisions. Ten park units in Utah were included in a recently published Utah Geologic Association geologic guidebook. The book is used by both park interpreters and resource managers and was partially funded through NPS inventory funding. To develop the geologic inventories, the NPS convenes an on-site evaluation a team of park resource management staff and outside technical specialists. At the end of the process, parks are provided with information on their geologic resources using four major products: 1) a bibliography of geologic literature and maps; 2) an evaluation of park geologic resources and issues; 3) a digital geologic map; 4) a geologic report. Most parks have bibliographies of available geologic data, however, only 57 parks have initiated the geologic inventory process to evaluate and synthesize existing data and determine outstanding inventory needs. Only 16 parks have complete digital maps and 14 have complete reports.

Digital mapping of water body locations has also been slow. For purposes of determining the condition of water resources and performance in improving and maintaining water and aquatic habitat quality, the most accurate method is to measure by waterbodies--miles of stream and rivers, and surface acres of ponds, lakes, estuaries and marine systems. The best source of this information is the USGS 1:24,000 National Hydrography Dataset (NHD). It would provide all the identified "reaches" in national parks in a GIS format, with each reach uniquely identified with a standard code number. This would allow correlation with water quality data in EPA's water quality database, STORET, to determine what percent of reaches in the National Park System have water quality results. It also provides the mechanism for quantifying miles of streams, acres of lakes, etc. that meet specified state and national standards and park goals. Very few parks currently have these data. The cost for completing the NHD 1:24,000 for the National Park System is estimated at approximately $3 million. The data are also available at a lesser resolution and NPS is currently evaluating whether the more costly 1:24,000 version is needed for all parks.

This increase will accelerate the completion of component inventories allowing park managers and other users to have a comprehensive basis for decisions affecting park resources. The inventories would be completed by 2008, two years earlier than previously planned.
This increase is part of the $18.0 million Natural Resource Challenge request.

Assess Watershed Conditions: $3.100 million
The NPS is proposing an increase of $3.1 million to assess water resource conditions. These assessments are critical in protecting and restoring water resources and water-related environments of the parks. Over 250 units of the National Park System contain rivers, lakes, reservoirs, streams, springs, and wetlands, including 18 national riverways, 14 national seashores and lakeshores, and 12 parks containing major reservoirs. Numerous others, such as Yellowstone, Katmai, Everglades, Yosemite, and Big Bend, contain nationally designated Wild and Scenic Rivers and/or State-designated Outstanding National Resource Waters. Many of these waters and related aquatic and riparian resources are in good condition but are threatened with impairment (e.g., by point and non-point source water pollution, surface water diversions, and ground water pumping and contamination). Other water resources are in an impaired state and require restoration. NPS is working on implementing water quality monitoring, but is currently very limited in its ability to carry out detailed assessments of the condition of these water resources and water-related environments. There is currently a backlog of approximately $100 million in water resource-related project needs in the parks. It is estimated that approximately 50 percent of these needs are related to assessing the condition of park water resources and water-related environments.

To address these assessment needs, this request proposes to increase funding by $3.1 million so that USGS can assist NPS in this critical water resource assessment effort. USGS activities in this effort will likely involve the full range of USGS's capabilities with respect to assessing the condition of park water resources and water-related environments. As such, USGS's efforts may involve water resource investigations, assessments, and analyses; water resources-related mapping; and aquatic and riparian resource evaluations. More specifically, this effort will likely include stream gauging and measurement of ground water levels; assessing water quality and watershed conditions; mapping of park hydrography and wetlands; investigating and modeling of hydrogeologic processes; determining water budgets, aquifer characteristics, and surface water and ground water interactions; and assessing aquatic and riparian habitat conditions. All condition assessments carried out in this effort will be identified by NPS. Further, all assessments will be carefully coordinated with the on-going Park Vital Signs Monitoring Program and other water resources-related activities.
This increase is part of the $18.0 million Natural Resource Challenge request.

Monitor Water Quality in Parks: $0.500 million, 5 FTE
The NPS is proposing an increase to monitor water quality in parks. This increase represents the 2nd year implementation of a water quality monitoring program begun in FY 2001. Monitoring stations would be located in parks with impaired waters. Monitoring stations would also be established in parks with State-designated designated Outstanding National Resource Waters, as well as parks with outstanding water resources that do not currently have formal designations, such as park units in Alaska. With this increase, water quality monitoring will be established in the 5 networks proposed in the Park Vital Signs request and would fully integrated with the Park Vital Signs Program. This increase would bring to 17 the total number of networks funded for water quality monitoring. Some concerns that will be addressed through this monitoring include:

- A proposed gold mine in Lake Clark National Park & Preserve
- Water pollution in Boston Harbor Islands National Recreation Area
- Water quality impacts of an abandoned uranium mine in Grand Canyon National Park
- Proposed development near Kaloko-Honokohau National Historical Park
- Elevated mercury concentrations in lakes in Isle Royale National Park

Monitoring will be coordinated by NPS Water Resources Division and implemented by NPS water resource specialists and technicians stationed in the parks or by cooperators, such as the U.S. Geological Survey (USGS) and Cooperative Ecosystem Study Units (CESU's), as appropriate. Monitoring will also complement and be coordinated with on-going water quality monitoring activities of USGS and other entities. A set of nationally consistent data will be collected, as well as data to meet site-specific needs. Data will be entered into EPA's STORET water quality database. This activity will enable NPS to continue to address its principal

challenge with respect to water resources—that NPS has no Servicewide ability to monitor water quality in units of the National Park System with significant water resources. Implementation of this water quality monitoring program will provide adequate park data to quantitatively measure changes in water quality conditions, thus permitting NPS to measure in a scientifically credible and defensible manner to determine whether water quality performance goals are accomplished. Further, this proposed monitoring program will provide a quantitative basis for working with regulators and identifying and mitigating water pollution sources to eliminate or reduce water quality degradation.

This increase is part of the $18.0 million Natural Resource Challenge request.

Expand Water Resource Protection and Restoration: $0.200 million, 3 FTE

The NPS is very limited in its ability to design and carry out effective protection and restoration measures in its 250 parks that contain significant water resources. The present Servicewide Water Resources Program does not provide sufficient professional expertise to protect and restore critical water resources. Of the 250 parks with significant water resources, less than 15 percent have their own aquatic resource specialist. To address these needs, this request proposes to increase expertise in parks to address priority water resource needs.

Analyses of Servicewide workload, park resource management needs, and budget priorities indicate a high demand for water resource, fishery, and aquatic technical assistance in parks to address ongoing issues. Examples include:

- Analysis of alternative water supplies for the South Rim at Grand Canyon
- Recovery of endangered fish species in the Northwest
- Groundwater assessments at the desert parks
- Threats to wetlands at Gulf Coast parks
- Addressing significant pollution sources affecting parks such as Chattahoochee River, Delaware Water Gap, Mojave, Padre Island, Klondike Gold Rush, and Buffalo River

While the Servicewide Water Resources Program can provide limited, basically one-time assistance, more locally-based expertise is justified where water resource, fishery, and/or other aquatic issues are substantial and ongoing in a particular watershed area. Areas such as the Great Lakes, Colorado Plateau, and the Mid- and South Atlantic Coasts, in particular, require more ongoing assistance. Positions would be funded by the servicewide program, but would be located in parks where they have been identified as a priority. In FY 2002, funding was received for 13 park-based aquatic resource professionals. This request proposes an additional 3 aquatic resource professionals in parks, thus providing a total of 16 new park-based aquatic resource professionals as planned in the Natural Resource Challenge.

This increase is part of the $18.0 million Natural Resource Challenge request.

Establish Additional Cooperative Ecosystem Studies Units: $0.400 million, 2 FTE

The NPS is proposing an increase of $.4 million and 2 FTE for Cooperative Ecosystem Studies Units. A network of CESUs is being established with leadership from the NPS, the USGS, and other Federal agencies. These units are interdisciplinary, multi-agency partnerships with research universities organized in broad biogeographic areas. Each unit includes a host university, additional university partners, and Federal agencies. Through this increase, the NPS will be able to fully and actively participate in two additional CESUs being established in FY 2002. The funding will provide for one NPS position at each of the additional CESUs, support individual units, and provide project funds in the cluster of parks served by each CESU. These positions will broker assistance for the NPS from universities and other Federal partners. NPS staff will work with parks to identify needs that these units will meet through research, technical assistance, and education, and then identify and involve specialized expertise and assistance from the universities and other Federal agency staff.

Participation in CESUs is a critical component of the National Park Service's Natural Resource Challenge, which specifically calls for strengthened partnerships with the scientific community. A key goal of this initiative is that the management of the National Park System is improved by greater reliance on scientific knowledge, and it calls for expanded NPS collaboration with Federal and university partners.

This increase is part of the $18.0 million Natural Resource Challenge request.

Native and Exotic Species Management (Servicewide): $2.150 million, 24 FTE
Funding is proposed to provide seven additional Exotic Plant Management Teams (EPMT's). The teams will increase the effectiveness of the NPS to manage exotic species by providing a staff trained and highly qualified to consistently and efficiently apply the latest technologies for managing exotic plant species safely and effectively. The teams because of their highly mobile capabilities will be able to provide rapid assistance to parks in the early treatment and eradication of newly arrived species. Similar to rapid response being an effective control of wildfires, the rapid response capability of the Exotic Plant Management Teams is crucial to preventing the prompt spread of exotic plants. This approach would not only eliminate the adverse impact to park resources or visitor safety and enjoyment of park resources, but represents a cost savings by treating a problem while it is still manageable in its incipient stages. The teams where appropriate will be able to coordinate their exotic plant management activities with land managers adjacent to parks and develop partnerships with state and local government entities, not only increasing their effectiveness, but demonstrating ability to cooperate with neighbors to address an ecological problem that does not recognize political boundaries.

The ability to coordinate our exotic plant management activities with surrounding landowners provides a scale of economies provides a measure of insurance in that efforts inside the park will not be reinvaded. These seven new teams would serve parks of the:

- Colorado Plateau (host park: Petrified Forest NP)
- Great Lakes Basin (host park: Sleeping Bear Dunes NLS)
- Mid-Atlantic Region (host park: Shenandoah NP)
- Appalachian Highlands (host parks: Blue Ridge Parkway/Mammoth Cave NP)
- Northern Rockies (host park: Yellowstone NP)
- Northeast Region (host park:Delaware Water Gap NRA)
- Alaska (host: Alaska Support Office)

These teams will greatly enhance the ability of at least 91 parks encompassing over 55 million acres across the United States to conduct assessments, set priorities and control targeted exotic plant species. These parks currently do not have sufficient staff, equipment or expertise to effectively control exotic plant species. The teams' efforts would meet or exceed the performance goal for non-native plant control by 1100 – 2100 acres per year. The teams represent a highly mobile strike force with the capability of responding rapidly to new infestations of exotic plant species and assisting with restoration of native plant species where necessary. With this proposal, Exotic Plant Management Teams would serve 147 parks or over 1/3 of the units in the National Park System.

This increase is part of the $18.0 million Natural Resource Challenge request.

Complete Resource Projects in Alaska: $0.500million
The proposed funding would allow the NPS to undertake a servicewide series of projects to better protect resources. The proposed FY 2001 program would include a study on Bear/Human Interactions, studies on Arctic Animals, Glacier Bay State/Federal Cooperative Fisheries Research, and Marine Mammal Partnerships. Funding would be used to establish baseline data on the natural and cultural environment, analyze ecosystem relationships, study the effect of human interactions on resources, and provide effective and accessible management of data.

This increase is part of the $18.0 million Natural Resource Challenge request.

Greenspace for Living Program: -$0.100 million
Begun in FY 2002, "Greenspace for Living" is a two-year partnership with the National Park Service, Metropolitan Washington Council of Governments, and others. The purpose is to educate, motivate, improve public awareness, and improve coordination of park, green space and recreation area land management efforts in the region. The partnership will build a public constituency to create a model public and private partnership for a metropolitan regional system of park, green space, and recreation areas that address the needs of people, landscapes and nature. The anticipated outcome will be a metropolitan region, which has a balance between the building environment and green space, sustained by natural processes able to support and enhance the quality of life for its people and communities. In FY 2002, $0.3 million was provided; only $0.2 million is required in FY 2003 to complete the two-year program.

Critical Ecosystems Studies Initiative: -$4.000 million
The continuation of this science and planning initiative in FY 2003 at the current level of $4.0 million has become part of the FY 2003 budget request of the United States Geologic Survey.

Travel Expenses: -$1.000 million
The NPS proposes to effect savings of -$1 million in this program by reducing travel and associated costs by implementing management reforms to achieve savings.